70398

RECORD OF DECISION

SELECTED REMEDIAL ALTERNATIVE

DECLARATION

SITE NAME AND LOCATION

Woodstock Municipal Landfill
Woodstock, Illinois

STATEMENT OF BASIS AND PURPOSE

This decision document represents the United States Environmental Protection Agency's (U.S. EPA) selected remedial action for the Woodstock Municipal Landfill (Woodstock) site located in Woodstock, Illinois. This decision document was developed in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and to the extent practicable, with the National Oil and Hazardous Substances Contingency Plan (NCP). This decision is based on the Administrative Record for this site.

The State of Illinois is expected to concur with the selected remedy.

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from the site, if not addressed by implementing the response action selected in this Record of Decision (ROD), may present an imminent and substantial endangerment to public health, welfare, or the environment.

DESCRIPTION OF THE REMEDY

This remedy is intended to be the final action for the site. The remedy addresses all contaminated media and includes: contaminated soil, sediment, and groundwater, landfilled wastes, leachate generation and emission of landfill gases.

The major components of the selected remedy include:

* Excavation and consolidation of contaminated sediments and sludges under the landfill cap;

* Installation and maintenance of a geosynthetic landfill cap in compliance with Illinois Administrative Code (IAC) Title 35, Subtitle G, Chapter 1, Subchapter i: Solid Waste and Special Waste Hauling, Part 811.314;

* Installation and maintenance of a landfill gas venting system that is compatible with the type of cap

specified in this Record of Decision;

* Installation and operation of a groundwater extraction, treatment, and discharge system;

* Development and implementation of a comprehensive monitoring program to ensure the effectiveness of the remedy;

* Mitigation of wetland areas where contaminated sediment removal occurs;

* Mitigation of wetland damage or loss during or after remedial activities are complete;

* Development and implementation of a surface water and sedimentation control system;

* Implementation of institutional controls to limit land and groundwater use.

STATUTORY DETERMINATIONS

The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective. This remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable and satisfies the statutory preference for remedies which employ treatment that reduces toxicity, mobility, or volume as a principal element.

Because this remedy may result in hazardous substances remaining on-site above health-based levels, a review will be conducted at least every five years after commencement of the remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment.

Valdas V. Adamkus
Regional Administrator, Region V

6/30/93.
Date

II. Site History and Enforcement Activities

The landfill had a number of different owners between 1935, when it was first used as a trash dump and open burning area, and when it was covered and classified as closed by the IEPA in October 1980. The current owner of the landfill property is the City of Woodstock. Other properties which are considered part of the site are under private ownership.

From approximately 1940 until leased to Woodstock in 1958, the site was used as a local trash dump and open burning area by William Gaulke. The site was used by the City under a lease agreement with Mr. Gaulke as a household garbage and municipal landfill from 1958 until its acquisition by the City in 1968. Following acquisition of the property, the property was used for the disposal of household and municipal solid waste and various industrial solid wastes including waste paint and coating materials, plating wastes, solvents, waste metals, inks and drummed material including polychlorinated biphenyls. In addition, approximately 7200 cubic yards of sludge generated by Woodstock Die Casting Inc., an Allied Signal subsidiary was also disposed of at the landfill.

The IEPA filed a complaint against the City of Woodstock in 1972 regarding operation of the landfill. The Illinois Pollution Control Board (IPCB) issued an opinion that evidence substantiated charges of open dumping, liquid deposition without approval, failure to follow set guidelines, and operating without a permit. The City of Woodstock was ordered to cease and desist all violations, obtain the necessary permits, and was fined for its actions. During this same time period, IEPA requested the installation of a leachate collection system to address releases from the landfill. However, no system was installed and a waiver was granted by the IPCB based on the City of Woodstock's stated intent to close the landfill in the near future and because the leachate did not violate surface water standards at the time. The City discontinued disposal activities at the site in 1975 and closed the landfill by covering it with fill material. Numerous inspections were conducted at the site by IEPA from 1975-1980. IEPA continually notified the city during this time that the landfill was indeed no longer accepting waste and was considered closed, but the final cover was deficient. In 1980, the IEPA classified the site as closed and covered. In 1983, the City was granted a permit from the IEPA to landfarm municipal sewage sludge at the site. A second permit was issued by the IEPA in July 1988, but sludge application was discontinued prior to that date, so the later permit has not been used.

During a July 1988 sampling investigation by the Technical Assistance Team (a USEPA contractor tasked to do site investigations), residential wells located downgradient of the landfill were sampled and found to contain arsenic, selenium, and thallium in excess of the Safe Drinking Water Act maximum drinking water levels. A subsequent sampling investigation in December 1988 again detected these substances in the same wells, but the concentrations did not exceed the regulatory criteria.

Based on the results of U.S. EPA and IEPA investigations and taking into account such factors as populations at risk, the potential of hazardous substances being present, the potential for contamination of drinking water supplies and the potential destruction of sensitive ecosystems, the site was proposed to be placed on the National Priorities List in June 1988. The site was placed on the National Priorities List in October 1989. A consent order to conduct an RI/FS was agreed to by Allied Signal and the City of Woodstock in September 1989.

III. Highlights of Community Participation

Compliance with the public participation requirements of Section 113 (k)(2)(B)(i-v) of CERCLA/SARA, have been achieved for the Woodstock site by:

- A press release was issued in June 1990 announcing a public "Remedial Investigation/Feasibility Study (RI/FS) kick-off" meeting to be held to inform the community as to U.S. EPA plans;
- The public "RI/FS kick-off" meeting was held in June 1990, announcing the initiation of the RI/FS;
- A fact sheet was developed and distributed in conjunction with the June 1990 meeting;
- A site information repository was established at the Woodstock Public Library to allow local access to site-related documents;
- A fact sheet was sent to all persons or organizations on the community relations mailing list in October 1992 updating them on the progress of the project;
- An Administrative Record has been compiled, including the RI, Baseline Risk Assessment, FS, and other documents, and has been placed in the site information repository;

SUMMARY OF REMEDIAL ALTERNATIVE SELECTION
WOODSTOCK MUNICIPAL LANDFILL
WOODSTOCK, ILLINOIS

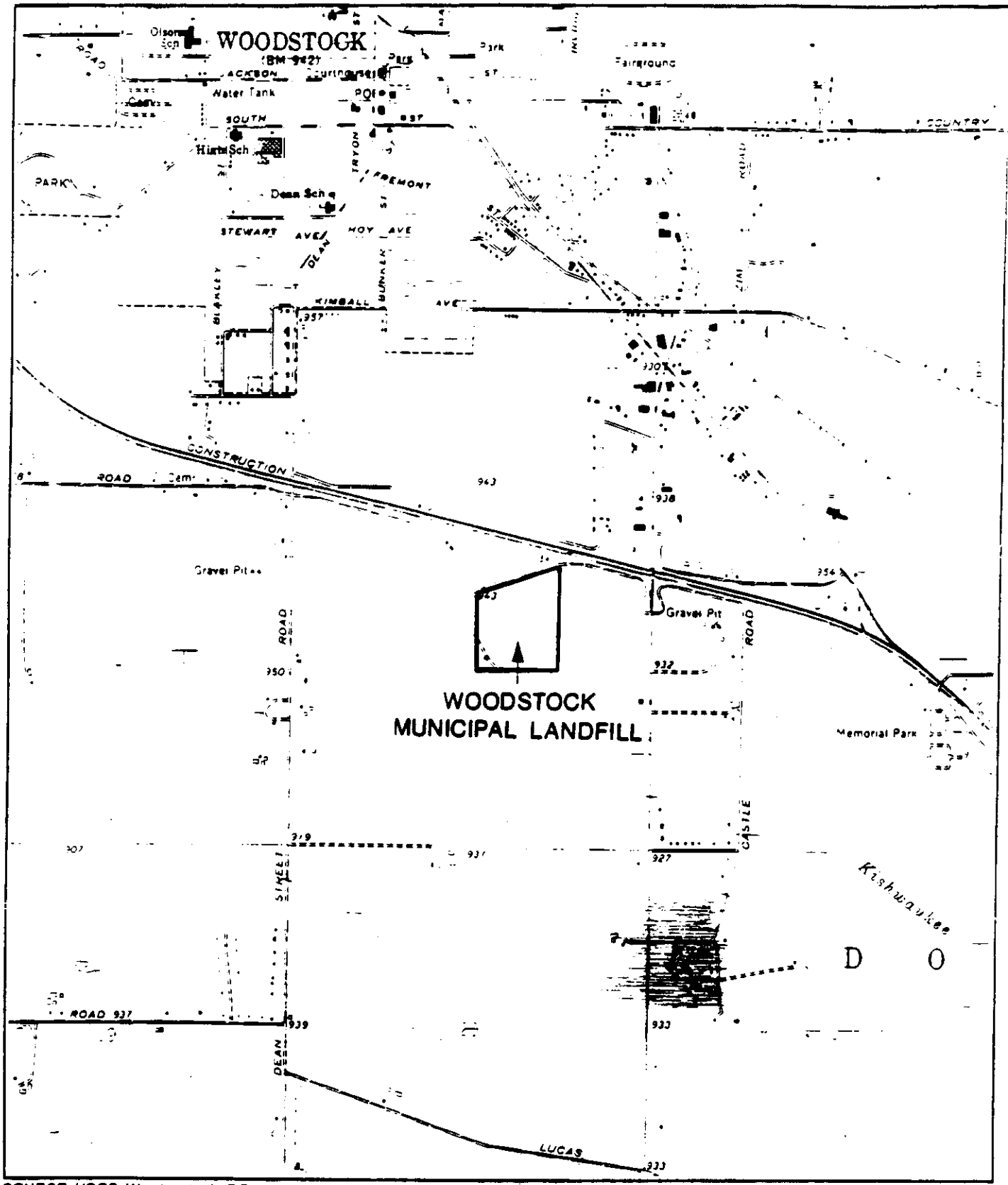
I. Site Name, Location and Description

The Woodstock Municipal Landfill site is located on the south side of the city of Woodstock, Illinois, a municipality with a population of approximately 14,350 residents. The site is located south of Davis Road, southwest of the intersection of U.S. Route 14 and Illinois Route 47 and is shown on Figure 1. The coordinates for the site are northeast quarter of Section 17, Township 44 North, Range 7 East (NE 1/4, Se 17, T44N, R7E).

The land surrounding the Woodstock site is a mixture of residential, agricultural, wetlands, commercial, and light industrial use. Land use immediately north of the site is primarily residential and agricultural. Land use west of the site is semiagricultural with much of the land currently classified as a wetland. Wetlands are located adjacent to the site on the east. Kishwaukee River runs south along the southwestern perimeter of the site. The City of Woodstock Wastewater Treatment Plant and additional wetlands are also located south of the site.

The site geology consists of a complex sequence of unconsolidated glacial deposits which are approximately 200 feet thick. These deposits have been divided into four units; an upper sand and gravel aquifer, an intermediate clay till member, a lower clay till member, and a sand unit which overlies bedrock comprised of dolomite and shale. The glacial and bedrock aquifers underlying the site are considered to be Class I by the State of Illinois. Class I aquifers include groundwater which is either currently being used or has the potential to be used as a drinking water source. Surface water runoff is generally to the west and south and is confined by drainage to the wetlands and subsequent infiltration or overland flow into Kishwaukee River.

The nearest residents to the site are located approximately 500 feet north of the site. The nearest existing residential well which may potentially be impacted by the contaminated groundwater if further migration occurs is located approximately 2500 feet southwest of the site. Based on data collected during the remedial investigation, groundwater contamination has not migrated to the local residential wells used for drinking water. The majority of the residents in the City of Woodstock are provided water through a municipal water supply system. This system is not considered to be threatened by the site.



SOURCE: USGS, Woodstock, IL, 7.5 minute topographic quadrangle, 1963 and 1972.

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FIGURE 1
SITE LOCATION MAP

WOODSTOCK MUNICIPAL LANDFILL
WOODSTOCK, IL

- A formal advertisement announcing the commencement of the public comment period, the availability of the proposed plan, and the time and place of the public meeting was placed in the Northwest Herald on April 7, 1993. The Herald is a major local paper of general circulation;

- The Proposed Plan for remedial action was released for public comment and placed into the Administrative Record on April 9, 1993;

- A thirty (30) day comment period was established and scheduled to end on May 10, 1993;

- A public meeting was held on April 28, 1993, at the Woodstock Public Library at which U.S. EPA and IEPA presented the Proposed Plan to the community and received verbal comments. A transcript was kept of the public meeting and was made available to the public and placed in the Administrative Record and site repositories;

- A fact sheet was developed and distributed in conjunction with the April 28, 1993 meeting;

- U.S. EPA granted a thirty (30) day extension of the public comment period on April 28, 1993, extending the closing date to June 9, 1993;

- An advertisement was placed in the local newspaper on May 12 and May 13, 1993, announcing the extension of the public comment period to June 9, 1993;

- Three public availability meetings were held on June 2, 1993 at the Woodstock Public Library to address community concerns dealing with the risks posed by the site as well as to answer additional concerns with the proposed remedy:

- U.S. EPA has received oral and written comments regarding the RI/FS, Baseline Risk Assessment, and the Proposed Plan. Comments have been addressed in the attached Responsiveness Summary.

IV. Scope and Role of the Selected Remedy

This ROD addresses remediation of the contaminated surface soil, sediments, and groundwater and addresses leachate which is being generated and is discharging from the landfill. The contaminants found in these media represent

the principal threat from the Woodstock site. The generation of leachate presents a threat as a continuous contaminant source to groundwater, surface water and to the wetlands surrounding the site. In addition, a direct contact threat exists from exposure to surface soils and leachate. The primary purpose of this remedy is twofold; 1) to restore the contaminated groundwater to an acceptable level that will allow for its unrestricted use and 2) to cap the landfill, thereby minimizing the generation of leachate and eliminating the risk posed by the surface soils and sediments.

V. Summary of Site Characteristics

The remedial investigation was conducted by the PRP's contractor, Warzyn, and was initiated in July 1990. The investigation was completed in June 1992 when the Final Remedial Investigation Report was issued. The remedial investigation identified the types of contaminants that are migrating from the landfill, and assessed the potential impact of contaminant migration on human health and the environment. The assessment of the landfill was accomplished by conducting three phases of field work. The purpose of phase I was to gather information on the general nature of the site, such as the geology and hydrogeology, and to identify and quantify the nature of any potential impact at or surrounding the site. The purpose of phase II was to complete the understanding of the site characteristics. This included delineation of the extent to which contamination was released from the site and the interactions between groundwater, surface water and leachate. The assessment was completed with the phase III investigation which included test pit excavation, waste sampling, additional soil sampling and further refinement of the groundwater flow regime of the site. Figures 2 and 3 depict the locations of the various samples which were collected during these phases of work. During the course of these phases of fieldwork, data were obtained from sampling residential wells, monitoring and leachate wells, surface and subsurface soils, surface water and sediment.

The following is a brief overview of the nature and extent of the contamination found during the investigation:

Landfill Gas Characteristics

Gas samples were collected from leachate wells with the highest rate of gas flow (LW-3 and LW-4). Volatile organic compounds (VOCs) were detected and included Freon 114, chloroethane, benzene, toluene, chlorobenzene, ethylbenzene, 4-ethyl toluene, 1,3,5-trimethylbenzene, 1,2,4-

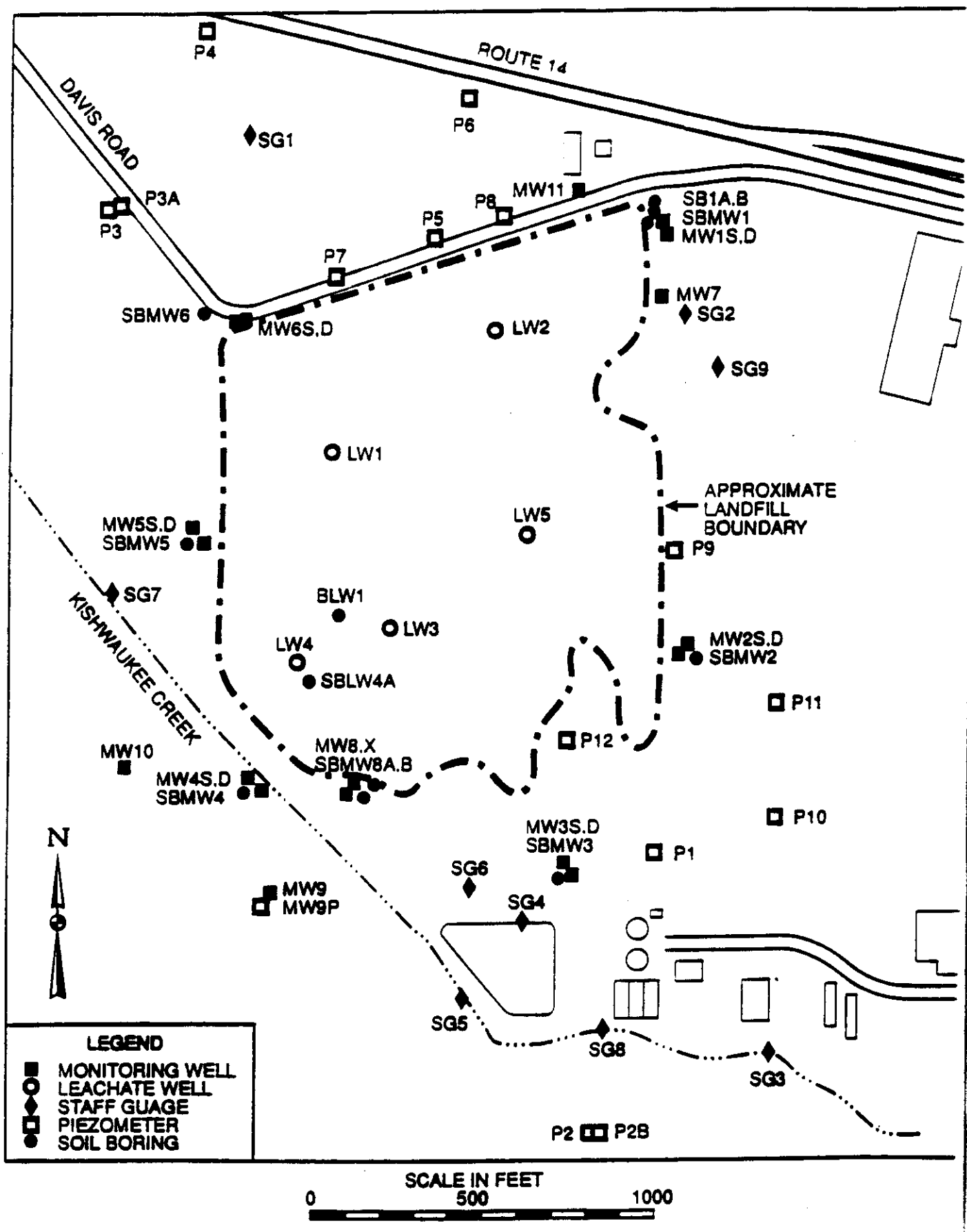

FIGURE 2
MONITORING WELL, PIEZOMETER,LEACHATE WELL,
SOIL BORING AND STAFF GUAGE LOCATION MAP

WOODSTOCK MUNICIPAL LANDFILL
WOODSTOCK, IL

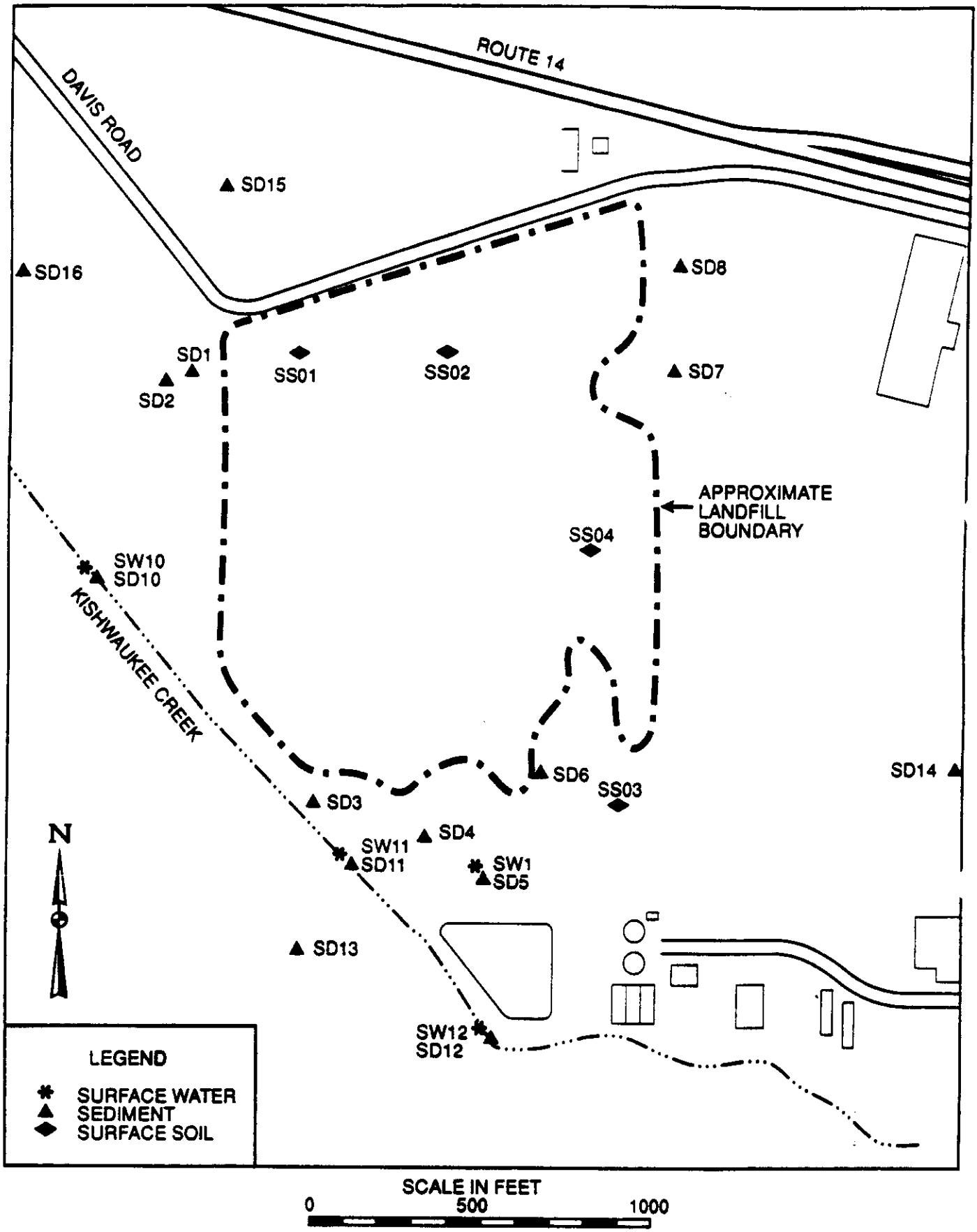

FIGURE 3
SURFACE WATER, SEDIMENT, AND
SURFACE SOIL SAMPLE LOCATION MAP
WOODSTOCK MUNICIPAL LANDFILL
WOODSTOCK, IL

trimethylbenzene, and xylene. Concentrations of these compounds ranged from 48 to 470 ppb.

Landfill Leachate Characteristics

Two rounds of leachate samples were collected from each of the five leachate wells. Analysis of these samples detected the presence of VOCs including benzene, chlorobenzene, 1,2 dichloroethene, toluene, and xylene ranging in concentration from 1 to 16 ppb. Naphthalene, a semi-volatile compound, was also detected at concentrations ranging from 6 to 34 ppb. In addition, several tentatively identified VOCs and semi-volatile organic compounds (SVOCs) were also identified and ranged in concentration from 3-48 ppb. A number of metals including arsenic, antimony, barium, beryllium, cadmium, cobalt, copper, chromium, iron, lead, magnesium, mercury, nickel, selenium, silver, vanadium, and zinc were also detected and ranged in concentration from 1 ppb to 185 ppm. Metals which were detected that exceeded primary drinking water standards include arsenic (ranged from 77-102 ppb with 50 ppb as the standard), barium (810-10,800 ppb, standard is 1000 ppb), chromium (86-1400 ppb, standard is 50 ppb), copper (497-3070, standard is 1300 ppb), lead (150-18,000 ppb, standard is 15 ppb), mercury (2.2-3.9 ppb, standard is 2 ppb), and nickel (1070-15,000 ppb, standard is 100 ppb). During the installation of the leachate wells, it was noted that infiltration of water was causing a mounding effect to occur, generating a large volume of leachate that subsequently discharges from the landfill.

Surface Soil Characteristics

Surface soil samples were collected and were found to be contaminated with numerous SVOCs, many of which were tentatively identified but were classified as unknown. SVOCs which were identified include phenanthrene, di-n-butylphthalate,, fluoranthene, pyrene, butylbenzlphthalate, benzo(a)anthracene, chrysene, benzo(a)pyrene, benzo(g,h,i)perylene, benzo(b)fluoranthene, benzo(k)fluoranthene, and 4-chloroaniline. Concentrations of the known and tentatively identified SVOCs range from 43-23000 ppb. In addition, numerous inorganic compounds were also detected including arsenic, barium, cadmium, chromium, copper, iron, lead, magnesium, manganese, mercury, nickel, selenium, silver, and zinc. Concentrations of these compounds range from 0.07-34000 ppm.

Waste Characteristics

Five test pits were excavated in areas identified as possible drum disposal locations. One test pit yielded an intact drum containing polychlorinated biphenols (PCBs),

acetone, 4 methyl-2-pentanone, and toluene. In addition, several crushed drum lids and/or drum fragments were also discovered during this activity. Other test pits located crushed drums which no longer contained waste product(s).

Groundwater Characteristics

A total of 17 monitoring wells were installed at the site and each of these wells was sampled twice, with the exception of MW-11, which was installed and sampled at the end of the scheduled fieldwork. Inorganic contaminants were detected including cyanide, lead, zinc, nickel, iron, manganese, and magnesium. Concentrations of these contaminants ranged from 3-1750 ppb. VOCs were also detected including benzene, toluene, chlorobenzene, 1,2 dichloroethene, and vinyl chloride. Concentrations of VOCs ranged from 2-21 ppb. Vinyl chloride, which was detected in the upper aquifer in monitoring wells MW-4D and MW-8, exceeded the maximum contaminant level (MCL) of 2 ppb for this contaminant. The vinyl chloride plume is shown on Figure 4. In addition, secondary drinking water standards were exceeded for iron, manganese, chloride, and total dissolved solids.

Surface Water Characteristics

A total of four surface water samples were collected from locations near the landfill in Kishwaukee River. Analysis of these samples identified the presence of arsenic, barium, copper, iron, lead, manganese, nickel and zinc. Concentrations of these contaminants ranged from 7.4-32,200 ppb. The levels of iron detected in these samples exceeded the ambient water quality criteria for this compound.

Sediment Characteristics

Sediment samples collected from the surrounding wetlands and Kishwaukee River contained one VOC, toluene, at concentrations ranging from 7-92 ppb. In addition, arsenic, barium, iron, lead, magnesium, manganese, mercury, vanadium, selenium, copper, nickel, zinc, and chromium were also detected ranging in concentration from 0.15-67000 ppm.

The data tables which identify the media that was sampled, the contaminant(s) identified in that media, and the respective concentrations have been attached as an appendix to this document.

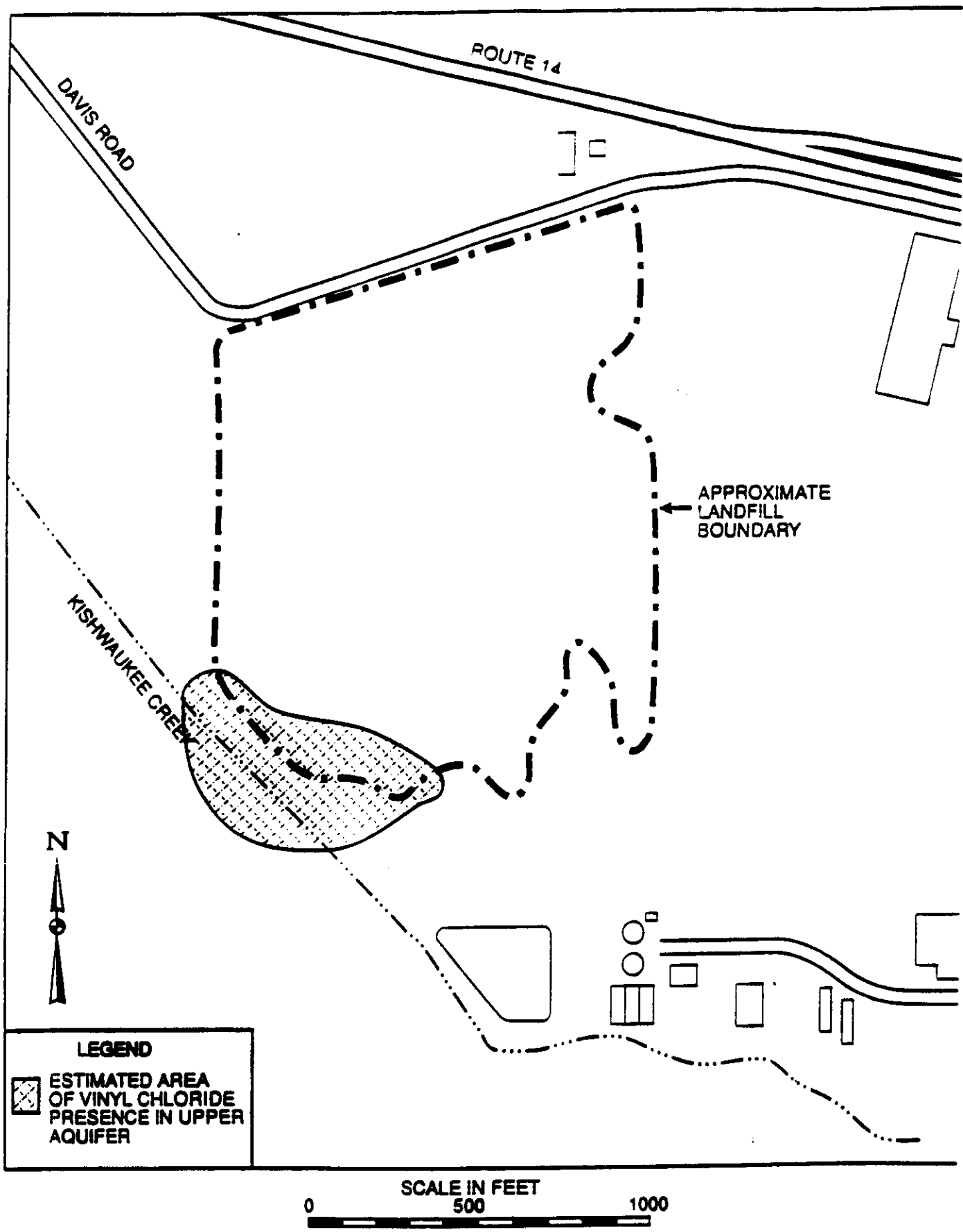

FIGURE 4
ESTIMATED AREA OF VINYL CHLORIDE
PRESENCE IN THE WATER TABLE AQUIFER
WOODSTOCK MUNICIPAL LANDFILL
WOODSTOCK, IL

The key conclusions which may be surmised from this data are as follows:

Groundwater contamination was detected in the upper aquifer immediately southwest and downgradient of the landfill. The contaminant of concern, vinyl chloride, was detected at concentrations that exceed the maximum contaminant level of 2 ppb (e.g. the maximum permissible level) for this compound.

Contamination was detected in leachate gas samples and in leachate groundwater samples collected from wells on the landfill. The contaminants included volatile organics such as benzene, ethylbenzene, toluene and xylene. In addition, inorganic contaminants such as arsenic, barium, chromium, lead and mercury were also detected in excess of regulatory criteria. Leachate is also identified as the source of contamination that is adversely affecting the groundwater, surface water and sediments at the site.

Contamination was detected in surface soils, surface water, and sediments at the site. These three media were contaminated with a wide range of VOCs, SVOCs, and inorganic compounds.

Leachate generation, if not controlled, will continue to cause further releases to the impacted media and surrounding wetlands and result in further adverse environmental impacts. While the wetlands are currently limiting the full impact of the landfill releases to the environment through attenuation, the capacity and capability of the wetlands to function in such a manner is limited.

VI. Summary of Site Risks

Risks to Human Health

A major goal of the RI was to assess potential risks to public health and the environment if the Woodstock site is not remediated. The assessment of impacts to human health is called the Baseline Risk Assessment (BLRA). Using information about what contaminants are present at the site, as well as the concentrations, quantities, locations and ability of the contaminants to migrate, a BLRA was developed to determine what, if any, risks are posed by the site and if remedial action is warranted.

Separate calculations are made for those compounds that can cause cancer and for those that can have other health

effects. For the compounds that can cause cancer (carcinogens), risks are estimated as the additional possibility of developing cancer due to exposure to the compounds. For the non-cancer causing compounds (noncarcinogens), a risk number called the hazard index (HI) is calculated so that if the risk is less than or equal to 1, no adverse health effects would be expected. If the risk is greater than 1, adverse health effects are possible.

The BLRA indicates that the site as it now exists, may pose an unacceptable cancer risk (CR) of 5×10^{-5} or CR = 5×10^{-5}) to trespassers (children/adolescents playing on-site) through exposure to surface soils. This exposure may occur through ingestion or dermal contact with polyaromatic hydrocarbons (PAHs) which are present in the contaminated surface soil. An additional physical hazard is currently posed to children by the debris piles and miscellaneous debris located on the site.

The BLRA also identified unacceptable cancer and non-cancer risks posed by the site under future land-use scenarios. As mentioned above under the current land use conditions, exposure to PAHs in the surface soil poses an unacceptable level of cancer risk to trespassers. In addition, under the potential future use scenario of the site being used as a park or recycling center, consumption of leachate from an on-site well was estimated to pose a potential non-cancer (hazard index of 10 or HI = 10) and cancer (CR = 4×10^{-4}) risk to these park users. The primary chemicals that posed a non-cancer risk due to leachate consumption were cadmium, cobalt, copper, lead, nickel and zinc. The primary chemicals that posed a cancer risk were arsenic and beryllium. Another potential health risk would also exist if a well was placed in or near the area contaminated with vinyl chloride. In this scenario, an unacceptable cancer risk (CR = 1×10^{-3}) exists if groundwater contaminated with vinyl chloride was consumed over a long exposure period by the resident(s) drinking from a contaminated well. The final scenario which was evaluated in the BLRA was use of the landfill itself for residential structures. Under this scenario, an unacceptable cancer risk (CR = 5×10^{-3}) and non-cancer risk (HI = 100) is posed by using the leachate as a groundwater source, inhalation of volatile organic compounds, surface soil exposure and consumption of home grown vegetables.

ENVIRONMENTAL RISKS

The purpose of the ecological assessment is to identify contaminants of potential ecological concern associated with

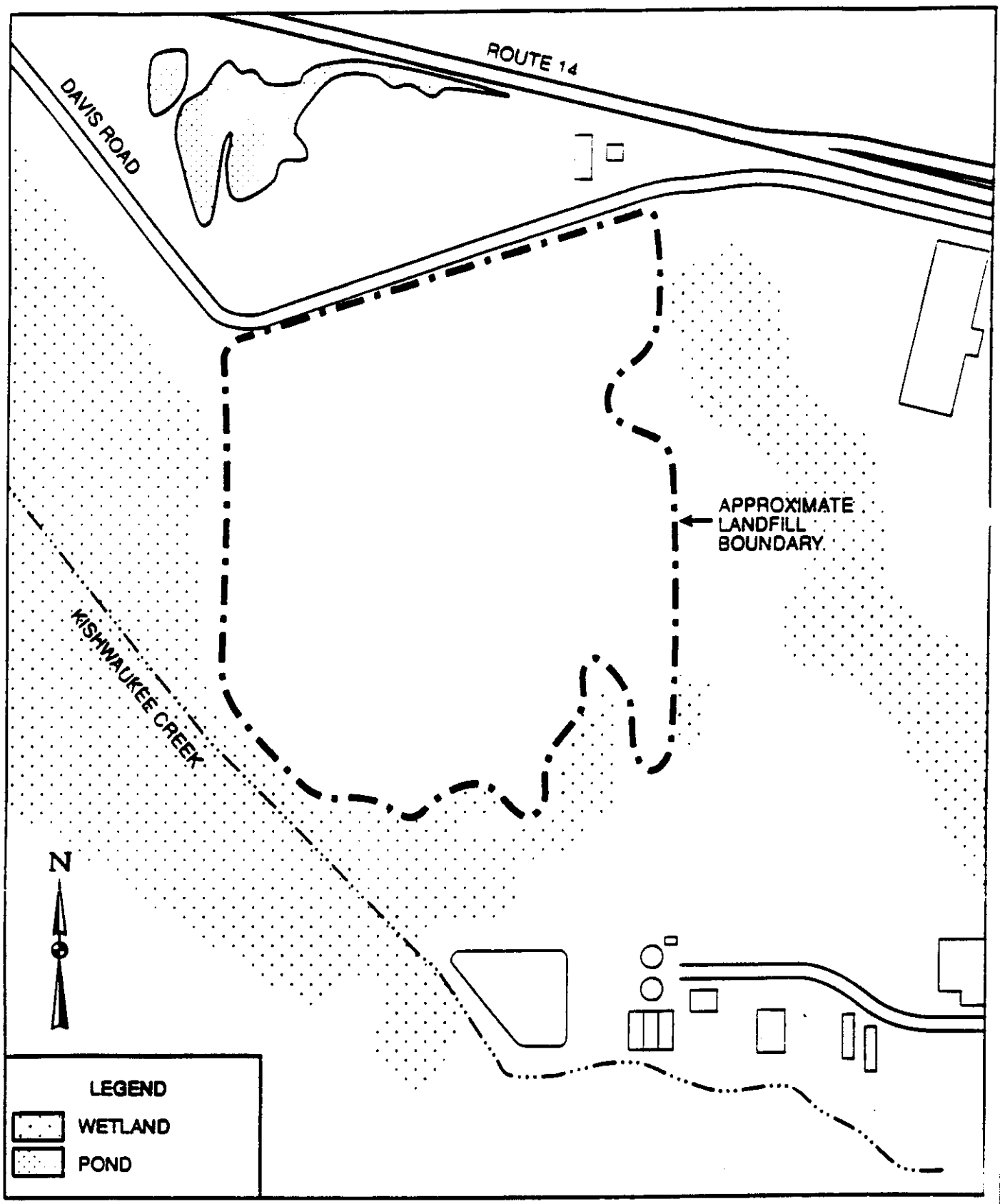

FIGURE 5
ECOLOGICAL FEATURES

WOODSTOCK MUNICIPAL LANDFILL
WOODSTOCK, IL

the site and their effects on plant or animal species of concern. The ecological features of the site are shown on Figure 5. The assessment conducted for the Woodstock site has determined that copper, mercury, and zinc concentrations in the surface soils at the site may adversely affect small terrestrial mammal populations. Exposure of aquatic species to iron which was detected in exceedance of regulatory criteria also poses a potential risk. No conclusions could be reached as to whether past ecological effects have occurred due to the presence of other inorganic contaminants in surface water and sediments at the site due to the lack of biota sampling or biological assays. Additional ecological assessments will be conducted by the Natural Resources Trustee/U.S. Fish and Wildlife Service at the site.

SUMMARY

Actual and threatened releases of hazardous substances are occurring from this site. The source of the risks originate from the contaminants within and emanating from the landfill through releases to groundwater, surface water, sediments, soils, and air. If not addressed, these releases may present an imminent and substantial endangerment to public health, welfare or the environment. Thus, it is necessary that corrective and mitigative action be taken to address the threats posed by the actual or threatened releases.

VII. Description of Alternatives

Based on the results of the RI, a list of alternatives was assembled to address the site remedial action objectives and ensure compliance with the requirements of the NCP. These alternatives are presented in the Feasibility Study prepared for the site. The following remedial alternatives were developed and are briefly described below.

ALTERNATIVE 1 NO ACTION

CERCLA requires that the "No Action" alternative be evaluated at every site to establish a baseline against which all other alternatives are compared. Under this alternative, no remedial actions would take place and the site would remain in its present condition.

Capital cost: 0
Annual maintenance and monitoring cost: $10,000
Estimated present net worth: $37,000
Estimated time to implement: None

Note: The $10,000 maintenance and monitoring cost is not an annual cost, but reflects the cost of reviewing site conditions on a five year basis.

ALTERNATIVE 2 ACCESS RESTRICTIONS, INSTITUTIONAL CONTROLS AND MONITORING

The purpose of Alternative 2 is to control access to the site, and to monitor the groundwater and existing landfill cover. The major elements of this alternative include:

* Institutional controls
* Fencing
* Monitoring

Institutional controls would include land use restriction and deed restrictions to preclude groundwater usage.

A chain-link fence would be installed and maintained around the perimeter of the site. The purpose of the fence would be to control access to the site, and thus, limit exposure to the surface soils on-site. Erosion control measures would be taken during fence construction to protect the adjacent wetlands.

The primary objectives of monitoring would be to monitor groundwater quality, wetlands water quality, and the condition of the existing landfill cover. Groundwater sampling and analysis would be conducted on a periodic basis. Visual inspections of the cover and monitoring for differential settlement would also be performed. The frequency of all sampling activities or inspections will be determined by the USEPA and IEPA (the "Agencies") during Remedial Design.

Capital cost: $124,000
Annual maintenance and monitoring cost: $25,000
Estimated present net worth: $614,000
Estimated time to implement: 1 month

ALTERNATIVE 3 - ACCESS RESTRICTIONS, INSTITUTIONAL CONTROLS, GROUNDWATER EXTRACTION SYSTEM, AND MONITORING

The purpose of Alternative 3 is to control access to the site, contain and treat the contaminated groundwater, and monitor the groundwater and existing landfill cover. The major elements of this alternative are:

* Institutional controls
* Fencing

* Monitoring
* Groundwater extraction, treatment, and discharge

Institutional controls would include land use restrictions and deed restrictions to preclude groundwater usage.

A chain-link fence would be installed and maintained around the perimeter of the site. The purpose of the fence would be to control access to the site, and thus, limit exposure to the surface soils on-site. Erosion control measures would be taken during fence construction to protect the adjacent wetlands.

The objectives of monitoring would be to assess the following: treatment system efficiency, groundwater and wetland quality, and the condition of the existing landfill cover. Groundwater and treatment system sampling and analyses would be conducted on a periodic basis. The landfill cover would also be periodically inspected visually and monitored for differential settlement. The frequency of all sampling activities and inspections will be determined by the Agencies during Remedial Design.

The groundwater extraction system would consist of installing groundwater extraction wells in the area of vinyl chloride contamination. Groundwater would then be pumped from the extraction system to the publicly owned treatment works (POTW). On-site treatment will be required only if pretreatment standards are exceeded during this action.

Capital cost: $576,000
Annual maintenance and monitoring cost: $101,000
Estimated present net worth: $1,414,000
Estimated time to implement: 6 months

ALTERNATIVE 4 - INSTITUTIONAL CONTROLS, RECONSTRUCT EXISTING COVER, AND MONITORING

The purpose of Alternative 4 is to minimize infiltration, promote surface water runoff, eliminate leachate seeps, and isolate the contaminants of concern. The major elements of this alternative include:

* Institutional controls
* Monitoring
* Cover reconstruction

Institutional controls would include land use restrictions and deed restrictions to preclude groundwater usage.

Periodic monitoring would be conducted to evaluate the

condition of the reconstructed landfill cover, the sedimentation basin and wetlands water quality, and groundwater quality. The reconstructed cover would be monitored periodically for differential settlement. The frequency of all sampling activities and inspections will be determined by the Agencies during Remedial Design.

The landfill cover would be reconstructed by removing existing trees and brush on the landfill, sealing leachate seeps, regrading the site, locating a suitable borrow site for fill material, importing fill material as necessary, placing this fill on top of the existing surface soils, and vegetating the new cover. A minimum cover thickness of 2 ft. would be established over the entire landfill. In areas where sewage sludge has been deposited on the landfill, a minimum of 6 in. of new soil will be placed, regardless of the depth of existing cover soils. The reconstructed cover would also be sloped by filling and regrading to promote surface water drainage from the landfill area. The reconstructed cover would extend to the edge of the landfill and would avoid the adjacent wetlands. The trees and brush removed from the landfill would be appropriately disposed of, as approved by the Agencies. Erosion control measures would be taken to protect the perimeter wetlands. A surface water control system would also be part of this remedy.

Capital cost: $4,418,000
Annual maintenance and monitoring cost: $69,000
Estimated present net worth: $5,770,000
Estimated time to implement: 6 months

ALTERNATIVE 5 - INSTITUTIONAL CONTROLS, RECONSTRUCT EXISTING COVER, GROUNDWATER EXTRACTION SYSTEM, AND MONITORING

The major elements of Alternative 5 are the same as Alternative 4 with remediation of contaminated groundwater included. These elements would therefore include:

* Institutional controls
* Monitoring
* Cover reconstruction
* Groundwater extraction, treatment, and discharge

The first three elements of this alternative were discussed in Alternative 4. The fourth element, the groundwater extraction system, would consist of installing groundwater extraction wells in the area of vinyl chloride contamination. Groundwater would then be pumped from the extraction system to an on-site treatment facility if the POTW pretreatment standards were exceeded during this

action.

Capital cost: $4,860,000
Annual maintenance and monitoring cost: $129,000
Estimated present net worth: $6,490,000
Estimated time to implement: 6 months

ALTERNATIVE 6 - INSTITUTIONAL CONTROLS, CONSTRUCT GEOSYNTHETIC CLAY CAP, AND MONITORING

The purpose of Alternative 6 is to minimize infiltration, promote surface water runoff, eliminate leachate seeps, and isolate the contaminants of concern. The major elements of this alternative include:

* Institutional controls
* Monitoring
* Geosynthetic clay cap

Institutional controls would include land use restrictions and deed restrictions to preclude groundwater usage.

The primary objectives of monitoring would be to monitor sedimentation basin and wetlands water quality, groundwater quality, and the condition of the landfill cap. Periodic groundwater sampling and analysis would be performed. Regular visual inspections would be conducted to evaluate the integrity of the landfill cap, and to check for erosion and differential settlement.

The landfill cap would be constructed as specified in 35 IAC 811.314. Generally, this includes removing the existing trees and brush, regrading the surface, sealing the leachate seeps, placement of a geosynthetic liner with a bentonite component, placement of a drainage layer, a rooting zone layer, and topsoil. The cap would then be revegetated. The geosynthetic clay layer would have a permeability comparable to 3 ft. of compacted clay (1×10^{-7} cm/s). The geosynthetic clay cap would extend to the edge of the landfill and would avoid the adjacent wetlands. The trees and brush removed from the landfill would be appropriately disposed of, as approved by the Agencies. The drainage layer will be designed so as to route landfill gases to a venting system. Erosion control measures would be taken to protect the perimeter wetlands. A surface water control system will be designed appropriate to the final grade such that it will limit erosion of the landfill cover from sheet flow, will not cause degradation of adjacent wetlands, meet local stormwater retention requirements, and allow for the monitoring of surface water runoff at distinct discharge

points.

Capital cost: $6,612,000
Annual maintenance and monitoring cost: $69,000
Estimated present net worth: $7,964,000
Estimated time to implement: 6 months

ALTERNATIVE 7 - INSTITUTIONAL CONTROLS, CONSTRUCT GEOSYNTHETIC CLAY CAP, GROUNDWATER EXTRACTION SYSTEM, AND MONITORING

The major elements of Alternative 7 are the same as those in Alternative 6 with remediation of contaminated groundwater included. These elements would therefore include:

* Institutional controls
* Monitoring
* Geosynthetic clay cap
* Groundwater extraction, treatment, and discharge

The first three elements of this alternative were discussed in Alternative 6. The fourth element, the groundwater extraction system, would consist of installing groundwater extraction wells in the area of vinyl chloride contamination. Groundwater would then be pumped from the extraction system to the POTW. On-site treatment will be required only if pretreatment standards are exceeded during this action.

Capital cost: $7,054,000
Annual maintenance and monitoring cost: $129,000
Estimated present net worth: $8,681,000
Estimated time to implement: 6 months

ALTERNATIVE 8 - INSTITUTIONAL CONTROLS, CONSTRUCT RCRA SUBTITLE D (i.e., SOLID WASTE-TYPE) CAP, AND MONITORING

The purpose of Alternative 8 is to minimize infiltration, promote surface water runoff, eliminate leachate seeps, and isolate the contaminants of concern. The major elements of this remedy include:

* Institutional controls
* Monitoring
* Solid waste-type cap

Institutional controls would include land use restrictions and deed restrictions to preclude groundwater usage.

The primary objectives of monitoring would be to monitor sedimentation basin and wetlands water quality, groundwater quality, and the condition of the landfill cap. Periodic groundwater sampling and analysis would be performed. Regular visual inspections would be conducted to evaluate the integrity of the landfill cap, and check for erosion and differential settlement.

Cap construction would involve the construction of a RCRA Subtitle D solid waste-type cap which would seal the leachate seeps, limit infiltration, and promote surface water drainage from the landfill area. Construction would begin with removal of the trees and brush on the landfill. The trees and brush removed would be appropriately disposed of, as approved by the Agencies. A borrow site would be located for fill materials, of which a clay source will be of primary importance. Fill material would be imported to provide grades suitable for positive drainage. The constructed cap would generally consist of a low permeability clay layer placed to a compacted thickness of 3 ft. A 2.5 ft. protective soil cover may be placed above the clay. A 6 in. organic topsoil layer may then be placed and vegetated.

Capital cost: $9,204,000
Annual maintenance and monitoring cost: $69,000
Estimated present net worth: $9,854,000
Estimated time to implement: 9 months

ALTERNATIVE 9 - INSTITUTIONAL CONTROLS, CONSTRUCT RCRA SUBTITLE D (i.e., SOLID WASTE-TYPE) CAP, GROUNDWATER EXTRACTION SYSTEM, AND MONITORING

The major elements of Alternative 9 are the same as Alternative 8 with remediation of contaminated groundwater included. These elements would therefore include:

* Institutional controls
* Monitoring
* Solid waste-type cap
* Groundwater extraction, treatment, and discharge

The first three elements of this alternative were discussed in Alternative 8. The fourth element, the groundwater extraction system, would consist of installing groundwater extraction wells in the area of vinyl chloride contamination. Groundwater would then be pumped from the extraction system to the POTW. On-site treatment will be required only if pretreatment standards are exceeded during this action.

Capital cost: $9,646,000
Annual maintenance and monitoring cost: $129,000
Estimated present net worth: $11,273,000
Estimated time to implement: 9 months

ALTERNATIVE 10 - INSTITUTIONAL CONTROLS, CONSTRUCT RCRA SUBTITLE C (i.e., HAZARDOUS WASTE-TYPE) CAP, AND MONITORING

The purpose of Alternative 10 is to minimize infiltration, promote surface water runoff, eliminate leachate seeps and isolate the contaminants of concern. The major elements of this remedy include:

* Institutional controls
* Monitoring
* Hazardous waste-type cap

Institutional controls would include land use restrictions and deed restrictions to preclude groundwater usage.

The primary objectives of monitoring would be to monitor sedimentation basin and wetlands water quality, groundwater quality, and the condition of the landfill cap. Groundwater sampling and analysis would be done on a periodic basis. Periodic visual inspection of the landfill cap and monitoring for differential settlement would also be performed.

Cap construction would involve the construction of a RCRA Subtitle C hazardous waste-type cap which would seal the leachate seeps, limit infiltration, and promote surface water drainage from the landfill area. Construction of the landfill cap would begin with removal of the trees and brush on the landfill. The trees and brush removed would be appropriately disposed of, as approved by the Agencies. A borrow site would be located for fill materials, of which a clay source will be of primary importance. Fill material would be imported to provide grades suitable for positive drainage. The RCRA Subtitle C cap would generally include the following components: a 2 ft. thick compacted clay layer, a 40 ml. high density polyethylene flexible membrane liner, a 1 ft. thick drainage layer, an 18 in. rooting zone, a 6 in. topsoil layer, and a vegetative cover.

Capital cost: $12,244,000
Annual maintenance and monitoring cost: $69,000
Estimated net worth: $13,596,000
Estimated time to implement: 1 year

ALTERNATIVE 11 - INSTITUTIONAL CONTROLS, CONSTRUCT RCRA SUBTITLE C (i.e., HAZARDOUS WASTE-TYPE) CAP, GROUNDWATER EXTRACTION SYSTEM, AND MONITORING

The major elements of Alternative 11 are the same as Alternative 10 with remediation of contaminated groundwater included. These elements would therefore include:

* Institutional controls
* Monitoring
* Hazardous waste-type cap
* Groundwater extraction, treatment and discharge

The first three elements of this alternative were discussed in Alternative 10. The fourth element, the groundwater extraction system, would consist of installing groundwater extraction wells in the area of vinyl chloride contamination. Groundwater would then be pumped from the extraction system to the POTW. On-site treatment would be required only if pretreatment standards were exceeded during this action.

Capital cost: $12,686,000
Annual maintenance and monitoring cost: $129,000
Estimated present net worth: $14,313,000
Estimated time to implement: 1 year

VIII. Evaluation of Alternatives

The NCP requires that the alternatives be evaluated against nine evaluation criteria. This section summarizes the relative performance of the alternatives by highlighting the key differences among the alternatives in relation to these criteria. The nine evaluation criteria are categorized as: (1) Threshold Criteria; (2) Primary Balancing Criteria; and (3) Modifying Criteria. Each of these terms is described as follows:

- Threshold Criteria

  - **1) Overall protection of human health and the environment** addresses whether a remedy provides adequate protection of human health and the environment and describes how risks posed through each exposure pathway are eliminated, reduced or controlled through treatment and engineering controls. The selected remedy must meet this criteria.

  - **2) Compliance with applicable or relevant and**

appropriate requirements (ARARs) addresses whether a remedy will meet federal and state environmental laws or justifies a waiver from such requirements. The selected remedy must meet this criteria or waiver of the ARAR must be obtained.

- Primary Balancing Criteria

  - **3) Long-term effectiveness and permanence** refers to expected residual risk and the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup goals have been met.

  - **4) Reduction of toxicity, mobility, and volume** through treatment is the anticipated performance of the treatment technologies a remedy may employ.

  - **5) Short-term effectiveness** addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed, until cleanup goals are achieved.

  - **6) Implementability** is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

  - **7) Cost** includes estimated capital and operation and maintenance (O&M) costs, also expressed as net present-worth cost.

- Modifying Criteria

  - **8) Support Agency (IEPA)** acceptance reflects aspects of the preferred alternative and other alternatives the IEPA favor or object to, and any specific comments regarding federal and state ARARs or the proposed use of waivers.

  - **9) Community acceptance** summarizes the public's general response to the alternatives described in the proposed plan and in the RI/FS, based on public comments received.

A detailed discussion of all the alternatives, including the "No Action" alternative, has been provided in the FS. This evaluation also includes an evaluation against the nine criteria. The NCP requires that the "No Action" alternative be evaluated to establish a baseline against which all other alternatives are measured. A summary of the evaluation discussion is provided below.

Overall Protection of Human Health and the Environment

Based upon the detailed analysis, it was concluded that Alternatives 1 through 5 would not satisfy the criterion of ensuring the overall protection of human health and the environment. The baseline risk assessment has documented unacceptable risks present at the site and these alternatives do not meet the criterion either because no remedial action would be taken (Alternative 1) or the remedial actions specified would not adequately address the present and future risks posed by the site, or adequately prevent further leachate generation and releases of contaminants to the environment.

The remaining Alternatives, 6 through 11, would be protective of human health and the environment in regards to exposure to surface soils. The differences in cap design among these alternatives is a function of their complexity and would not result in increased protectiveness from surface soil exposure. However, the increased cap complexity would affect leachate generation with the cap specified in Alternatives 10 and 11 yielding the least amount of leachate generation. The surface water seeps which are a result of leachate generation are expected to be eliminated through placement of a cap on the landfill. The caps for Alternatives 6 through 9 would permit slightly greater infiltration rates than the caps for Alternatives 10 and 11. This would result in slightly greater leachate generation than that provided by Alternatives 10 and 11.

The caps proposed may have the undesirable effect of trapping gas inside the landfill, resulting in a potential increase in lateral migration of landfill gas. This will be remedied through placement of a venting system in the landfill.

Alternatives 6, 8, and 10 would not be protective of human health and the environment with respect to groundwater in that no remedial activities are proposed in these alternatives to address this potential or actual risk to human health and the environment.

Compliance With ARARS

Only Alternative 7 would comply with all chemical, action, and location specific ARARs associated with the site. More specifically, Alternatives 1 through 5 would not comply with the action-specific or chemical-specific ARARs which require landfill capping (IAC 811) and remediation of the contaminated groundwater (40 CFR 141 and 35 IAC 620.410). Alternatives 6, 8, and 10 would not comply with chemical-specific ARARs since these alternatives do not require remediation of the contaminated groundwater. Alternatives 9 and 11 would not meet the location-specific ARAR (40CFR 6) since these alternatives would result in the loss of wetlands due to cap placement and other remedial alternatives exist which would not require mitigating the loss of these wetlands. If an alternative were chosen that results in a loss of wetlands, mitigating the loss of those wetlands generally requires replacement on a 2 to 1 ratio. A listing of all ARARs associated with each alternative can be found in Table 11 of the FS.

Long-term Effectiveness and Permanence

Capping the landfill would contain the surface soils, sediments, sludges and wastes effectively. A cap would permanently reduce infiltration into the landfill therefore reducing leachate generation to the maximum extent practicable. Alternatives 10 and 11 would provide the most effective infiltration reduction option of all the alternatives. However, since the waste mass is in contact with groundwater, the more effective infiltration reduction achieved by Alternatives 10 and 11 is not considered to be significant in comparison to either of the caps specified in Alternatives 6 and 7 or 8 and 9. All the capping alternatives (4 through 11) would eliminate human exposure to the contaminated surface soils and would also minimize the ecological risks posed by this media with Alternatives 10 and 11 being most protective due to the thickness of the cap.

The alternatives addressing groundwater extraction (3, 5, 7, 9, and 11) would be effective in preventing further migration of the vinyl chloride and would ultimately eliminate the threat posed by this media through extraction and treatment.

Reduction of Toxicity, Mobility or Volume

None of the alternatives would reduce toxicity or volume of the in-situ landfill wastes. Alternatives 1 through 3 would only require monitoring and institutional controls. Alternatives 4 through 11 are containment alternatives and

would also not reduce the toxicity and volume of in-situ wastes. However, the capping alternatives would reduce the volume of leachate being produced by minimizing infiltration. This would also reduce the mobility of the contaminants. Alternatives 5, 7, 9, and 11 would reduce the toxicity, mobility and volume of contaminants in the groundwater through an active groundwater extraction system.

Short-term Effectiveness

Alternatives 5, 7, 9, and 11 would result in compliance with groundwater standards through extraction of the contaminated groundwater and treatment at the POTW. A higher level of risk is associated with these alternatives due to the potential dewatering of the wetlands. Design of the system must preclude this from occurring. In addition, erosion controls, drainage swales, and sedimentation basins are necessary to protect the wetlands during construction as well as after construction is complete. Remediation activities would also result in increased risk of injury due to increased truck traffic on other related construction activities. The increase in dust generation must also be minimized through dust control measures or the use of personal protective equipment by workers. It is expected that the duration of capping activities specified in Alternatives 4 through 11 will not exceed one year. Remediation of the contaminated groundwater as called for in Alternatives 3, 5, 7, 9, and 11 is not expected to exceed five years.

Implementability

All the alternatives are readily implementable. The capping alternatives and those alternatives specifying groundwater extraction have been proven to be an effective technology in remediating similar threats on other sites. Technologies for constructing a groundwater extraction system are relatively easy to implement, well developed, and are reliable. If treatment is required before discharge, the technologies for treatment are proven and readily implementable.

Cost

The costs for the eleven identified alternatives range from $37,000 (Alternative 1) up to $14,313,000 (Alternative 11) in terms of present net worth. The capital costs range from $0 (Alternative 1) up to $12,686,000 (Alternative 11). The following summary table lists each alternative and the associated costs:

ALTERNATIVE	COSTS		
	Capital	O&M	PNW
1. No Action	$0	$10,000	$37,000
2. Access Restrictions and Monitoring	$124,000	$25,000	$614,000
3. Access Restrictions, Groundwater Extraction System, and Monitoring	$576,000	$101,000	$1,414,000
4. Access Restrictions, Reconstruct Existing Cover, and Monitoring	$$3,935,000	$69,000	$$5,287,000
5. Access Restrictions, Reconstruct Existing Cover, Groundwater Extraction System, and Monitoring	$4,378,000	$129,000	$6,005,000
6. Access Restrictions, Construct Geosynthetic Clay Cover, and Monitoring	$6,612,000	$69,000	$7,964,000
7. Access Restrictions, Construct Geosynthetic Clay Cover, Groundwater Extraction System, and Monitoring	$7,054,000	$129,000	$8,681,000
8. Access Restrictions, Construct RCRA Subtitle D (i.e., solid waste-type) Cover, and Monitoring	$9,204,000	$69,000	$9,854,000
9. Access Restrictions, Construct RCRA Subtitle D (i.e., solid waste-type) Cover, Groundwater Extraction System, and Monitoring	$9,646,000	$129,000	$11,273,000
10. Access Restrictions, Construct RCRA Subtitle C (i.e., hazardous waste-type) Cover, and Monitoring	$12,244,000	$69,000	$13,596,000

ALTERNATIVE	COSTS Capital	O&M	PNW
11. Access Restrictions, Construct RCRA Subtitle C (i.e., hazardous waste-type) Cover, Groundwater Extraction System, and Monitoring	$12,686,000	$129,000	$14,313,000

State Acceptance

The State of Illinois, through IEPA, is expected to concur with the U.S. EPA's recommendation of Alternative 7 as the preferred alternative for the Woodstock site.

Community Acceptance

A summary of both written and verbal comments received by the U.S. EPA during the public comment period has been attached as Appendix II. Generally, the remedy was highly controversial due to the potential local tax implications associated with implementing the remedy. As is reflected in the attached summary, there was one faction of residents who strongly supported the proposed remedy and another faction in opposition.

IX. Description of Selected Remedy

The U.S. EPA and IEPA have conducted an analysis of the potential remedies and have selected Alternative 7 as the remedy for the Woodstock site.

The purpose of Alternative 7 is to minimize infiltration, promote surface water runoff, eliminate leachate seeps, isolate the waste, and remediate the contaminated groundwater. The major elements of this alternative include:

* Institutional controls
* Monitoring
* Geosynthetic clay cover
* Groundwater extraction, treatment, and discharge

Institutional controls will include land use restrictions to prevent future development of the site and adjoining

property and to preclude construction of any structure which may be detrimental to the remedy. Deed restrictions are already in place at the site which preclude groundwater usage and would be amended and expanded, as necessary, to the satisfaction of the Agencies to prohibit the installation of water supply wells on property which could potentially be impacted by vinyl chloride contamination.

The primary objectives of monitoring will be to monitor sedimentation basin and wetlands water quality, groundwater quality, and the condition of the landfill cover. Periodic groundwater sampling and analysis will be performed. Regular visual inspections will be conducted to evaluate the integrity of the landfill cover, and check for erosion and differential settlement. Long term maintenance will be conducted to assure that the components of this remedy remain effective. The frequency of all sampling activities and inspections will be determined by the Agencies during Remedial Design.

The landfill cap would be constructed as specified in 35 IAC 811.314. Generally, this includes removing the existing trees and brush on the landfill, placement of the contaminated soils and sediments on the landfill surface, regrading the surface using existing on-site soils and at least 6 inches of supplemental granular soils to achieve and maintain positive drainage, sealing the leachate seeps, placement of a geosynthetic membrane which will include a bentonite layer, placement of a drainage layer, a rooting zone layer, and topsoil. The cap would then be revegetated. During the design of the remedy, the potential use of native vegetation will be investigated in conjunction with the Soil Conservation Service. The final cap design and vegetative cover will then be selected at the completion of this process. The barrier layer will have a permeability equal or superior to 3 feet of compacted clay at $1x10^{-7}$ cm/s. The geosynthetic clay cap will extend to the edge of the landfill and will avoid the adjacent wetlands. Trees and brush removed from the landfill would be appropriately disposed of. The grading layer will be designed so as to route landfill gases to a venting system. Perimeter side slopes are to be regraded to allow for no impact to the wetlands and accommodate the design requirements of the landfill cap. Erosion control measures would be taken to protect the perimeter wetlands. A surface water control system will be designed appropriate to the final grade such that it will limit erosion of the landfill cover from sheet flow, will not cause degradation of adjacent wetlands, meet local stormwater retention requirements, and allow for the monitoring of surface water runoff at distinct discharge points. The precise design of the cap components and

associated engineering or environmental requirements will be reviewed and approved by the Agencies during Remedial Design.

The groundwater extraction system will consist of installing groundwater extraction wells in the area of vinyl chloride contamination. Groundwater would be pumped from the extraction system to an on-site treatment facility if the POTW pretreatment standards were exceeded. The goal of this remedial action is to restore ground water to its beneficial use, which is, at this site, a drinking water resource. Therefore, remediation will continue until such time that the MCL (and equivalent state standard) of 2 ppb is attained. Based on information obtained during the remedial investigation and on a careful analysis of all remedial alternatives, U.S. EPA and IEPA believe that the selected remedy will achieve this goal. However, it may become apparent, during design, implementation or operation of the ground water extraction system and its modifications, that contaminant levels have ceased to decline and are remaining constant at levels higher than the remediation goal over some portion of the plume or that a more effective technology may be warranted. In such a case, the system performance standards and/or the remedy may be evaluated and changes to the system or a different technology may be required which would allow the Agencies to achieve ARARs.

The selected remedy will include ground water extraction during which the system's performance will be carefully monitored on a regular basis, as determined by the Agencies, and adjusted as warranted by the performance data collected during operation. Modifications may include any or all of the following:

- Discontinuing pumping at individual wells where cleanup goals have been attained;
- Alternating pumping at wells to eliminate stagnation points;
- Pulse pumping to allow aquifer equilibration and to allow adsorbed contaminants to partition into ground water;
- Installing additional extraction wells to facilitate or accelerate cleanup of the contaminant plume.

To ensure that cleanup levels are maintained and that the cap prevents all further releases from occurring, the site will be monitored on a frequency as required by the Agencies. If further releases do occur, the Agencies may require that further remedial actions are undertaken to

eliminate these releases.

The sediments that contain levels of contamination that exceed background levels will be excavated and placed under the new landfill cover. The wetlands areas from which these sediments are removed must then be restored to their original conditions. Excavation and consolidation of these sediments under the cap will reduce the exposure potential to humans or wildlife to this contaminated media.

X. Statutory Determinations

The selected remedy must satisfy the requirements of Section 121 of CERCLA to:

A. Protect human health and the environment;
B. Comply with ARARs;
C. Be cost-effective;
D. Utilize permanent solutions and alternate treatment technologies to the maximum extent practicable; and
E. Satisfy the preference for treatment as a principle element of the remedy.

The implementation of the selected remedy at the Woodstock site satisfies the requirements of CERCLA as detailed below:

A. Protection of Human Health and the Environment

Implementation of the selected remedy will reduce and control potential risks to human health posed by exposure to contaminated ground water, soil, landfill waste, surface water, and sediments. The selected remedy will reduce potential exposure to contaminated groundwater and surface soils to within acceptable an acceptable risk range. The contaminated groundwater will be remediated until the MCL of 2 ppb is reached. The selected remedy also protects the environment from the potential risks posed by contaminants discharging to ground water, Kishwaukee River, surrounding soils, sediments, and wetlands.

Institutional controls will be implemented to protect against drinking of contaminated ground water at the site and prohibit construction which could be detrimental to the remedy.

Capping the landfill, in addition to reducing the potential risk posed by exposure to landfill contaminants, will reduce precipitation infiltration through the cap thereby reducing leachate generation. Ground water contaminant loading, leachate generation, and seepage into the wetlands would

then be reduced or eliminated.

Gas venting will reduce potential risks due to the landfill gases.

Excavation and consolidation of contaminated sediments under the landfill cap will reduce the exposure potential to humans or wildlife posed by these sediments.

No unacceptable short-term risks will be caused by implementation of the remedy. However, the nearby community, and site workers, may be exposed to noise and dust nuisances during construction. Standard safety measures should manage any short-term risks. Dust control measures would mitigate risks as well. Mitigative measures, as specified during design, will be taken to prevent and address adverse environmental impacts.

B. Compliance with ARARs

With respect to any hazardous substances, pollutants or contaminants that will remain on-site, CERCLA (§ 121 (2) (A)) requires the U.S. EPA to select a remedial action which complies with legally applicable or relevant and appropriate standards, requirements, criteria or limitations (ARARs). The selected remedy will comply with Federal ARARs or State ARARs where State ARARs are more stringent, as determined by U.S. EPA. The remedy will be implemented in compliance with applicable provisions of CERCLA and the NCP.

1. Chemical-Specific ARARs

Chemical-specific ARARs regulate the release to the environment of specific substances having certain chemical characteristics. Chemical-specific ARARs typically define the extent of cleanup at a site.

a. Soils/Sediments

There are no chemical-specific standards established for soils and sediments.

b. Ground Water

i). Federal ARARs

Maximum Contaminant Levels (MCLs), Maximum Contaminant Level Goals (MCLGs), and Secondary Maximum Contaminant Levels (SMCLs) are ARARs for the site.

ii). State ARARs

The State of Illinois is authorized to administer the implementation of the Federal SDWA. The State also has ground water quality standards promulgated under Title 35, Subtitle F, Chapter I, Part 620. According to the State of Illinois' classification system, the aquifer underlying the site is Class I potable resource groundwater. Class I groundwqter quality standards listed under 620.410 are ARARs for the ground water at the Woodstock site.

In the event that discharge of the contaminated groundwater to the POTW is not acceptable without on-site treatment, IAC 35, Part 218 would then be an ARAR for the site.

c. Surface Water

i). Federal ARARs

Federal water quality criteria (WQC) are guidelines that set pollutant concentration limits to protect surface waters that are applicable to point source discharges, such as from industrial or municipal wastewater streams. At a Superfund site, the Federal WQC would not be ARARs except for pretreatment requirements for discharge of treated water to a Publicly Operated Treatment Works (POTW). Since the selected remedy plans to discharge to the local POTW, these requirements are ARARs for the Woodstock site. The AWQCs for protection of freshwater aquatic organisms are ARARs for the Woodstock site remedy for any direct discharges to the Kishwaukee River.

ii). State ARARs

The State of Illinois has been authorized to implement the National Pollutant Discharge Elimination System (NPDES) established under the CWA, as specified in IAC 35, Part 309. For any discharge to waters of the State of Illinois, the chemical specific standards of Title 35, Subtitle C, Subpart B, Section 302.208 and toxic substances standards of Section 302.210 of the Illinois Administrative Code establishing General Use Water Quality Standards would be ARARs.

2. Location Specific ARARs

Location-specific ARARs are those requirements that relate to the geographical position of a site. These include:

a. Federal ARARs

40 CFR 6 - Protection of Wetlands is an ARAR for any

remedial action taken within wetlands. This ARAR requires that activities required in a wetland must minimize the destruction, loss, or degradation of the wetland. In addition, any affected wetlands may be restored, as appropriate. In addition, a permit from the U.S. Army Corps of Engineers may be required due to the potential that activities during construction may impact the wetlands.

Endangered Species Act (16 USC 1531) - The Endangered Species Act requires that actions must be performed to conserve the endangered or threatened species located in and around the Woodstock site. Activities must not destroy or adversely modify the critical habitat upon which endangered species depend. The selected remedy will be implemented in compliance with this regulation.

b. State ARARs

Endangered Species Protection Act, Title 17 Conservative Chapter 1, Subchapter C, Part 1075 Illinois Administrative Rules - Under this requirement, actions must be performed to conserve the endangered or threatened species located in and around the Woodstock site. Activities must not destroy or adversely modify the critical habitat upon which endangered species depend. The selected remedy will be implemented in compliance with this regulation. Prior to conducting remedial activities, a survey of the subject areas will be conducted to determine whether or not endangered or threatened species will be affected.

3. Action-Specific ARARs

Action-specific ARARs are requirements that define acceptable treatment and disposal procedures for hazardous substances.

It is unknown at this time whether or not the collected ground water will require treatment prior to discharge to the POTW. If required, any treatment system utilized will be operated in compliance with all ARARs including 40 CFR 403.

40 CFR 122 is an ARAR at this site in regards to surface water runoff which includes stormwater runoff.

29 CFR 1910 and 1926 are OSHA requirements which are ARARs at the site.

a. State ARARs

The selected remedy will comply with substantive requirements of Title 35, Illinois Solid and Special Waste Management Regulations, Section 811, Subpart C for closure of solid wastes landfills, specifically relating to final cover, air pollution, and closure requirements, as required.

Groundwater that is treated and discharged shall comply with 35 IAC, Part 307 as well as 35 IAC, Part 310 which are ARARs for this site since pretreatment standards, permitting, and reporting requirements must be met for POTW discharge.

35 IAC, Part 620.250 which provides for the establishment of a groundwater management zone is an ARAR for the site.

C. Cost Effectiveness

Cost effectiveness is determined by evaluating the following three of the five balancing criteria to determine overall effectiveness: long-term effectiveness and permanence, reduction of toxicity, mobility or volume through treatment, and short-term effectiveness. Overall effectiveness is then compared to cost to ensure that the remedy is cost effective.

The selected remedy provides overall cost effectiveness because it provides adequate long-term effectiveness and permanence. Secondary reduction in toxicity, mobility, and volume is accomplished through treatment of the ground water. No unacceptable short-term risks will be caused by implementation of the remedy.

D. Utilization of Permanent Solutions and Alternative Treatment Technologies or Resource Recovery Technologies to the Maximum Extent Practicable

The selected remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable. This finding was made after evaluation of the protective and ARAR-compliant alternatives for the Woodstock site remedial action and comparison of the "trade-offs" (advantage vs. disadvantages) among the remedial alternatives with respect to the five balancing criteria (see discussion above).

E. Preference for Treatment as a Principle Element

The principle threats at the Woodstock site are the

contaminated ground water and contaminated soil and leachate. The selected remedy uses treatment as a secondary element of the remedy through the collection and treatment of contaminated groundwater. Due to the large volume and heterogeneous distribution of waste throughout the landfill, treatment of the landfill material itself is not practicable at this site.

Comment 28: You have not proven to me how dangerous the landfill is. How much water do I have to drink? What chemicals are in the soil and how long do you have to be exposed to them before it becomes a unacceptable health risk? How much air do I have to breathe and for how long?

Response: Vinyl Chloride was detected in the groundwater and was determined to pose an unacceptable health risk under future use scenarios. Although there are also other pathways of exposure to contaminated groundwater that were considered, an unacceptable health risk would exist if the groundwater is ingested as drinking water at an offsite residence at a rate of 2 liters per day, 350 days per year for 30 years.

Chemicals detected in surface soils that contribute to an unacceptable human health risk at the site include: phenanthrene, di-n-butylphthalate, fluoranthene, pyrene, butylbenzlphthalate, benzo(a)anthracene, chrysene, benzo(a)pyrene, benzo(g,h,i)pyrene, benzo(b)fluoranthene and benzo(k)fluoranthene. Standard assumptions were used to estimate incidental ingestion and dermal exposure to surface soil in determining that an unacceptable human health risk is present. According to Table L-2 in the RI report, for an older child an unacceptable risk would occur based on the assumption that 100 mg of soil per day would be incidentally ingested, 4 days per week, 35 weeks per year, for 10 years. It was also assumed that there would be dermal absorption from skin exposure to site soils at a rate of 1.45 mg/cm^2 over a 1490 cm^2 area of the hands and feet for the same period of time that incidental ingestion would occur.

As indicated in this comment, the risks from inhalation of volatile chemicals released indoors due to landfill gas migration under a future use scenario were determined to be unacceptable. During the risk assessment it was assumed that the inhalation rate would be 20 m^3 per day, 350 days per year for 30 years.

The above discussion is very general and summarizes only selected parts of the complex evaluation that was conducted during the baseline risk assessment for the site. Detailed discussions of the risks posed by the site are included in Section 8 of the RI Report for the site. The RI report has been included as a part of the Administrative Record and is available for public review at the Woodstock Municipal Library.

1.6 COMPARISON TO OTHER SITES

Comment 29: Is it feasible to compare the situation now at the Woodstock dump site to other landfills or dump sites that are maybe 10, 20 years older so that we'll know what kind of problems we could have in 10 or 20 years from now if the city decides not to go through with this or do a halfway job? Where do we sit on the dump evolution scale?

Response: Based on experience with other older and poorly maintained landfills, it is likely releases to surface water and groundwater would continue and potentially increase with time if no actions are taken. The landfill cover would continue to degrade to a point that the wastes themselves could be eroded and migrate from the landfill. In addition a further degraded landfill cover would allow more infiltration into the landfill and more leachate to be formed.

1.7 EQUIVALENT PERFORMANCE OF OTHER ALTERNATIVES

Comment 30: You are saying that we have to have a cap. When you gave us your options one was no action. If that was one of our options, why can't we look at that then?

Response: CERCLA requires that the "No Action" alternative be evaluated at every site to establish a baseline against which all other alternatives are compared. Under this alternative, no cleanup actions would take place and the site would remain in its present condition.

Comment 31: It says in the FS that Alternative 4 would use suitable material to reconstruct the cover. It doesn't seem to me that you would allow us to a decide what suitable material is. Why wouldn't there be a regulation saying it has to be two feet of clay or it has to be three feet of concrete or whatever?

Response: There is a regulation in Illinois specifying what must be included in a landfill cap. That regulation is 35 Illinois Administrative Code Section 811.314. This regulation requires a low permeability layer in the cover to be equivalent or superior to 3 feet of compacted earth with a permeability of $\leq 1 \times 10^{-7}$ cm/second. The Agencies have determined that this regulation is an ARAR (Applicable or Relevant and Appropriate Requirement) for the site.

Comment 32: It says in the FS that Alternative 4 would use suitable material to reconstruct the cover. What do the PRPs call suitable material in Alternative 4?

Response: Suitable fill described in Alternative 4 appears to be compacted earth with a permeability of 8.5×10^{-7} cm/second. This fill specification was used by the PRP's consultant in Appendix C to determine the amount of infiltration which may occur if the cap was reconstructed. To meet ARARs for the site, a low permeability layer will need to have a permeability which is no greater than 1×10^{-7} cm/sec. Consequently "suitable fill" as proposed by the PRPs does not meet the requirements as specified in the State of Illinois regulations.

Comment 33: Was your primary concern with alternative 4 that it will not stop infiltration through the cap enough to eliminate the leachate seeps, or was there some other criteria with which you had a concern on Alternative 4?

Response: Regulations found in Section 300.430 of Volume 40 of the Code of Federal Regulations (40 CFR 300.430) require that USEPA consider 9 criteria when evaluating an Alternative. These 9 criteria are listed and defined in the Record of Decision. Alternative 4 does not favorably satisfy the 9 evaluation criteria for the following reasons:

1) The cap proposed in Alternative 4 would not attain Applicable or Relevant and Appropriate Requirements (ARARs) under State environmental laws and therefore would not satisfy the criterion of *Compliance with ARARs*. The cap proposed in Alternative 4 would not meet the requirement in 35 IAC 811.314 for a landfill cover system because: 1) the low permeability layer as proposed would be an insufficient thickness; 2) the low permeability layer as proposed would have too high a permeability; and 3) the final protective cover layer over the low permeability layer have an inadequate thickness.

2) Alternative 4 would not favorably satisfy the criterion of *long term effectiveness and permanence*. USEPA is required to consider the adequacy and reliability of controls. This factor addresses in particular the long-term protection from residuals and the potential need to replace technical components of the alternative, such as the cap. Under this criterion USEPA is also required to consider the mobility of untreated waste remaining at the conclusion of the remedial action. When considering long term protection from residuals USEPA believes that the Alternative 4

cap would have an insufficient thickness of final cover material to adequately protect the low permeability barrier layer and that this would lead to loss of effectiveness and possibly failure of the cap's barrier layer over time. In addition, there are other Alternatives which satisfy this criterion and are considerably more effective in reducing the mobility of waste materials remaining at the conclusion of the remedy. For example based on information submitted by the PRPs in the FS, the cap proposed in Alternative 4 would result in approximately 1,929,840 gallons of leachate generated per year from infiltration, compared to only 605,880 gallons per year with the Alternative 7 cap. The amount of leachate generated from infiltration directly affects the potential for mobility of wastes remaining in the landfill.

When considering the need for replacement of technical components proposed by the Alternative, USEPA concludes that there is sound technical information available which indicates that the 6" of topsoil proposed on top of the low permeability layer in Alternative 4 will not adequately protect that layer from root penetration, freezing, and other mechanisms that may damage the barrier layer or severely reduce its effectiveness.

3) Alternative 4 would not satisfy the criterion of *reduction of toxicity, mobility or volume through treatment*, because no treatment of contaminated groundwater is proposed.

4) Alternative 4 would not favorably satisfy the *short term effectiveness* criterion. As a part of this criterion USEPA is required to consider the time until protection is achieved. No groundwater treatment is proposed in Alternative 4. In the FS, the PRPs estimated that it would take 40 to 70 years to achieve Illinois groundwater protection standards through natural attenuation processes. Consequently Alternative 4 does not favorably satisfy the *short term effectiveness* criterion.

5) Alternative 4 would not satisfy the criterion of *State Acceptance*.

Comment 34: According to the hydrologic evaluation model the alternative 4 cap would reduce infiltration quite a bit, but there would still be approximately 1.82 inches per year of infiltration percolating through the landfill. Is that too much infiltration?

Response: The Alternative 4 cap would allow too much leachate to be generated relative to other alternatives. For example, based on information submitted by the PRPs in the FS, the cap proposed in Alternative 4 would result in an annual leachate generation from infiltration of approximately 1,929,840 gallons/yr. That can be compared to less than 605,000 gallons/year for Alternatives 6 through 11. Alternative 4 would therefore generate an additional 1,323,960 gallons of leachate per year compared to Alternatives 6-11. Under the criterion of Long term effectiveness, the USEPA is required to consider the degree of mobility of untreated wastes remaining in the landfill if a remedial alternative were to be undertaken. The amount of leachate generated from infiltration directly influences the potential for mobility of wastes remaining in the landfill, and is an important consideration in the selection of a remedial alternative at the Woodstock Municipal Landfill site.

Comment 35: I believe that the only current unacceptable human health risk identified is surface soil. Can this be corrected with any other alternative other than alternative 7?

Response: Unacceptable human health risks are posed by surface soil contamination and exposure to debris. These current health risks would be corrected under each alternative that specifies capping (Alternatives 4-11).

2.0 PERMANENCE OF REMEDY AND EFFECTIVENESS

Comment 36: Would the remedy have to be redone to meet new regulations adopted in the future?

Response: As long as contaminants remain on-site, there is the possibility that further remedial actions may be required in the future. However, if a chosen remedy results in compliance with the identified ARARs, and that compliance is maintained, the USEPA would not retroactively add additional ARARs to the Record of Decision after it was issued.

Comment 37: How many geosynthetic liners are in existence and how long have they been in place? How long have any been monitored and what is the expected life of the geosynthetic? The remedy you're proposing, is that in place anywhere else right now? What has been your experience with it? What is your experience with having to do remedies to the remedy? Have you run across any cases where there has been a failure?

Response: Refer to Comment 13 response. Relative to the use of a bentonite product, bentonite has been used for nearly 65 years as a commercial water flow inhibitor. The fabric bentonite composite has been used for up to 13 years. There are at least 530 installations where this product has been used throughout North America. (160 million square feet installed).

No failures of the product have been observed and the product and workmanship are generally guaranteed for 25 years. The failures that have occurred have typically been related to geotechnical issues surrounding excessively steep side-slopes and friction conditions between the membrane and adjacent cover soils. Due to the relatively flat nature of the slopes at the Woodstock site, and the requirement to regrade the perimeter slopes to less that a 4 ft horizontal distance for each 1 ft vertical distance, failure related to these conditions is not anticipated. The final decisions about side slopes will be evaluated in the remedial design stage.

Comment 38: If we started doing everything today and it worked perfectly fine, how soon would you be done. When would USEPA be happy that nothing is leaking out and the groundwater is getting fixed?

Response: Typically a remedy becomes "operational and functional" either one year after construction is complete, or when the remedy is determined concurrently by the Agencies to be functioning properly and is performing as designed, whichever is earlier. However, in accorda[illegible]e with 40 CFR 300.430(f)(4)(ii) if a remedial action is [illegible]lected that results in hazardous substances, pollutant[illegible] or contaminants remaining at the site above levels that al[illegible]w for unlimited use and unrestricted exposure, as is the case with the Woodstock site, USEPA must review such action no less often than every five years after initiation of the selected remedial action.

The vinyl chloride in the groundwater must be remediated to a level of 2 ppb before extraction and treatment ceases. If the level of vinyl chloride in the groundwater exceeds 2 ppb at some later date, remediation will again be required to reduce the concentration to within the allowable level.

3.0 SUPERFUND PROCESS

3.1 SUPERFUND PROCESS - GENERAL QUESTIONS

Comment 39: What type of reaction, what type of response, what level must our response go to for it to have an impact on your decision of your recommendation number seven, to make a change in that recommendation? What do you need to see from us citizens to cause that type of impact? What is your threshold. What can we say if we decide to say it that makes an impact on you?

Response: EPA may change a remedy recommendation if new technical information, that was not previously available, is submitted during the public comment period, or if an alternate plan is proposed that meets the evaluation criteria and addresses the risks at a site.

Comment 40: If we decide not to agree to this, the City of Woodstock, what is your next step?

Response: The USEPA will still attempt to negotiate with the remaining PRPs to secure agreement to fund the Remedial Design and Remedial Action.

Comment 41: If Woodstock landfill were to come under Superfund's scrutiny today, would it be placed on Superfund?

Response: The site was scored under the Hazardous Ranking System at the time it was proposed to be placed on the NPL, and as the site is now on the NPL there is no reason to rescore it. However, as a result of the detailed investigation conducted at the site, unacceptable risks that require mitigation were documented.

Comment 42: Can the site be removed from the NPL and will that removing the site from the NPL eliminate it from the Superfund program and thus become a state problem?

Response: The site cannot presently be removed from the NPL since there are contaminants left on the site. Refer to the previous comment for additional explanation.

Comment 43: How much money is in Superfund?

Response: The USEPA budget for the 1993 fiscal year as authorized by Congress is approximately 2.5 billion dollars.

Comment 44: Are you required by law only to look at the alternatives presented in the FS?

Response: No, USEPA will evaluate any alternate plan that is received by the agency during the public comment period. This analysis would include an evaluation of the Alternate plan against the nine evaluation criteria, as required by Superfund regulations.

Comment 45: Woodstock followed all rules and guidelines sent to them by IEPA to make sure that the landfill was operated properly. Although technology or legislators have changed those rules, it seems unfair to go back and penalize the City of Woodstock when they did nothing wrong.

Response: Environmental statutes, as written by the U. S. Congress apply a concept of strict liability which means if you are a "person" covered by the statute and you violated the statute, then you may be liable even if you supposedly followed all the rules.

It should be noted that IEPA filed a complaint against the City of Woodstock in 1972 regarding operation of the landfill. Substantiated charges of open dumping, liquid deposition without approval, failure to follow set guidelines, and operating without a permit were filed. Woodstock was ordered to cease and desist all violations, obtain the necessary permits, and was fined for its actions. The IEPA also attempted to require Woodstock to install a leachate collection system and a groundwater monitoring system, but Woodstock successfully petitioned under hardship and these systems were never installed.

3.2 SUPERFUND PROCESS - PRP AND ENFORCEMENT ISSUES

Comment 46: If you can find additional PRPs, how do you know if they have the financial capability of contributing to the fund? Do you sue them? Do you fine them and put them out of business if they are still in business?

Response: If additional PRP's are identified, the USEPA will issue a notice letter to them requesting their participation in negotiations to pay for the remedial action at the site. The USEPA is not privy to the financial capabilities of a PRP to fund the remedy. If a PRP or PRPs refuse to pay for the remedy, the USEPA may take the following actions: 1) issue an order for the PRPs to fund the remedy, or; 2) USEPA

may fund the remedy and later seek reimbursement of the cost of the remedy through court action.

Comment 47: Can the USEPA enforce a tax levy on to us to cover those costs?

Response: The USEPA does not have the authority to place a tax levy on the City of Woodstock to pay for the remedy.

Comment 48: What authority does the state have to enforce the institutional controls? The validity of these institutional controls should be considered very, very weak and they really do nothing to protect human health and environment.

Response: USEPA agrees that institutional controls in and of themselves are not protective of the environment. Institutional controls are primarily legal measures such as a restrictive covenant on the landfill property deed, acquisition of the contaminated area, and local ordinances prohibiting certain activities. The State does have the authority to enforce institutional laws through the state court system.

Although USEPA expects to use institutional controls in conjunction with other remedial measures, USEPA also recognizes that institutional controls are not as reliable as other control measures. Consequently, the regulations which govern the Superfund program, as found in Section 300.430(a)(1)(iii)(D) of Volume 40 in the Code of Federal Regulations, dictate that the use of institutional controls shall not substitute for active response measures (e.g., treatment and/or containment of source material, restoration of ground waters to their beneficial uses) as the sole remedy unless such active measures are determined not to be practicable, based on the balancing of trade-offs among alternatives that is conducted during the selection of the remedy.

Comment 49: Is there some way you break down responsibility among PRPs if you had a small company that might have dumped a little bit, "X" amounts of yards of material.

Response: The PRP(s) that sign the consent degree for the RI/FS agree to fund all of the RI/FS costs. Similarly, PRP(s) that sign the consent degree for implementation agree to pay for implementation of the remedial action and long-term care. How the costs are distributed between the PRPs that sign the decrees, is dependent upon negotiations between the PRP(s).

In addition, the PRP(s) that have signed the consent degree can negotiate settlements with other non-signing PRPs, or they can take separate legal action against the remaining non-signing PRPs.

3.3 COMMUNITY ACCEPTANCE/INSTITUTIONAL CONTROLS

Comment 50: What guarantees can the state or the USEPA make that institutional controls will be kept in place since they can be legally reversed by the next city council?

Response: The USEPA and IEPA cannot guarantee that institutional controls would remain in effect. If USEPA or IEPA became aware that an institutional control was changed, then legal action could be taken in opposition to the change.

Comment 51: Actions should only be taken to address current risks and for continued monitoring, and that institutional controls should be relied on to eliminate potential health hazards.

Response: The regulations which govern the Superfund program, as found in Section 300.430(a)(1)(iii)(D) of Volume 40 in the Code of Federal Regulations, dictate that the use of institutional controls shall not substitute for active response measures (e.g., treatment and/or containment of source material, restoration of ground waters to their beneficial uses) as the sole remedy unless such active measures are determined not to be practicable, based on the balancing of trade-offs among alternatives that is conducted during the selection of the remedy. Consequently, institutional controls cannot be relied on as the sole remedy at the Woodstock Municipal Landfill site because active remedial measures, such as groundwater extraction and treatment, are practical.

Comment 52: The USEPA plan as presented in Alternative 7 is unwarranted because it is based on unsupported assumptions of future use of the site.

Response: The contention that USEPA's preferred alternative is driven only by future use scenarios is incorrect. There are current unacceptable risks to human health and the environment from contaminated surface soils, debris exposed through the degraded landfill cap, and contamination of surface water and sediments adjacent to the landfill from leachate seeps. It is clear that an effective cover is needed on the landfill to prevent possible exposure to contaminated surface soils and exposed debris, and to minimize leachate formation by minimizing the amount of

precipitation that infiltrates through the landfill cap. The cap proposed in the Alternative endorsed by the PRPs (Alternative 4) is unacceptable because it would not comply with the ARARs for the site, and does not favorably satisfy the evaluation criteria (such as long term permanence) which USEPA is required to use in choosing a remedy. Although remediation of offsite groundwater contamination is in part driven by unacceptable human health risks under a future use scenario (assuming that the groundwater is used as drinking water), the groundwater remedy is required and justified by, among other things, the Illinois State groundwater quality standards and federal maximum contaminant levels (MCLs). The existence of these ARARs, in combination with the unacceptable potential future risks and the NCP directives that "contaminated ground waters will be returned to their beneficial uses wherever practicable, within a time frame that is reasonable" and that "the use of institutional controls should not substitute for active response measures", provide a basis on which the groundwater component of the remedy is premised.

Comment 53: The leachate in the landfill is weak compared to test results of other similar landfill sites. Therefore minimal action is called for.

Response: USEPA does not agree that leachate at the Woodstock Municipal Landfill site is "weak" compared to test results of other similar landfill sites. Based on sample results from the RI, leachate at the Woodstock Municipal landfill site exceeds maximum typical leachate concentrations for zinc, lead, nickel, and copper in other Municipal Solid Waste Landfills for which USEPA has collected data. (Reference: *Characterization of MWC Ashes and Leachates from MSW Landfills, Monofills, and C0-Disposal Sites (EPA, 1987f)*.

Comment 54: A new cover needs to be in place, and the PRPs should not try to get by with a less than minimum cover. IEPA regulations require a 3 foot cover, and that should be adhered to. State and Federal standards are there for a reason, and the city shouldn't be using scare tactics of higher taxes to try to convince the residents that the minimum cover would be too expensive. In the case of environmental cleanup, dollar expenses should not be of prime concern. The safety of the ecosystem, which includes all life, should be our concern. As a resident of Woodstock, I would rather pay higher taxes and have a city that isn't contaminated by a Superfund site that wasn't properly monitored.

Response: USEPA and IEPA agree with the need to comply with the ARARs and agree that the Alternative 4 cover endorsed by the PRPs would not be adequately protective of the Environment.

4.0 LANDFILL REGULATIONS/STATE RESPONSIBILITY

Comment 55: Does the state allow any other kind of cap than the geosynthetic proposed in Alternative 7?

Response: Yes, the State would allow any cap which meets the regulatory standard in 35 IAC 811.314. To meet the regulatory standard a cap must include a low permeability layer overlain by a final protective layer. The low permeability layer may be one of three different types:

1. A compacted earth layer of three feet in thickness and achieving a permeability of $1x10^{-7}$ cm/sec; or

2. A geomembrane providing equivalent or superior performance to the compacted earth layer, one that can withstand normal stresses, and must be placed on a base free from sharp objects or other materials which may cause damage; or

3. Any other low permeability layer with equivalent or superior performance.

The final protective layer must cover the entire low permeability layer, must be at least three feet thick, must protect the low permeability layer from freezing and plant root penetration and must be able to support vegetation. This generally includes rooting zone material, drainage zone material and topsoil.

Comment 56: It is my understanding that the clay cap on the dump is no longer in compliance with present day rules. Will reconstruction as proposed in alternative 4 bring the site up-to-date?

Response: No, the reconstruction proposed in Alternative 4 would not bring the site to current standards. Current standards which must be met during construction of the cover can be found in 35 IAC 811.314. The cover proposed in Alternative 4 would not meet those standards.

Comment 57: At any time was this landfill licensed by any agency of the federal or state government?

Response: The Woodstock Municipal Landfill was in operation as a dump site as early as 1935. While there may have been permits granted by local agencies, such as a county health department, it was issued a permit by the Illinois Environmental Protection Agency in October, 1972. In 1975 the City of Woodstock ceased accepting waste at the landfill. At that time, IEPA classified the landfill as closed. Inspections were conducted by the IEPA to check on the placement of the final cover. Placement of the final cover was completed in 1980. At this time, the landfill was classified By IEPA as closed and covered.

Comment 58: Can the state be a PRP?

Response: Under Superfund law there are four classes of parties who may be held liable for costs associated with a Superfund site. These parties, called potentially responsible parties or PRPs are:

1. The current owner and/or operator of the site;
2. The owner or operator at the time hazardous substances were disposed of at the site;
3. Any person who arranged for disposal or treatment at the site (commonly referred to as a "generator"); or
4. Any person who accepted hazardous substances for transportation to a site selected by that person (commonly referred to as a transporter").

If the State fits into one of these categories it may be considered to be a PRP.

Comment 59: It seems to me the citizens of Woodstock and Woodstock city government complied with all state and federal laws when they closed this particular landfill. And yet it seems to me the regulations that we follow, the people who set up the regulations don't deem themselves responsible for what we now have, and are not, in essence, becoming liable as we are to following their regulations. That is totally unfair.

Response: Environmental statutes, as written by the U. S. Congress, apply a concept of strict liability which means if you are a "person" covered by the statute and you violated the statute, then you may be liable even if you supposedly followed all the rules. The city is considered a PRP because the landfill they own and operated is the site of

releases of hazardou[illegible]bstances to the environment, not because the landfil[illegible]s not meet current state regulations. The st[illegible]e and federal government are not now implying that there [illegible]as been any wrongdoing on the City's part. If there were not surface water releases or groundwater contamination coming from the landfill, neither the state nor federal government would be requiring the City of Woodstock to do anything to the landfill. However, this landfill as it exists does have releases to the environment. As such, they have to be dealt with and are being dealt with within the Superfund framework. CERCLA and the NCP mandate that USEPA and IEPA respond to those releases. This legislation defines as liable those owners/operators, generators or transporters associated with the site. That includes the City of Woodstock.

5.0 MISCELLANEOUS COM[illegible]NTS

Comment 60: I do not understand why none of the remedial action alternatives you have considered -- including Alternative 7 that you are recommending -- focuses on bioremediation.

Response: In the FS, USEPA required that the PRPs evaluate the potential for using in-situ bioremediation of the groundwater. In section 4.6.1 of the FS, the PRPs concluded that in-situ biological treatment of the groundwater is difficult to implement, requires accurate placement of injection wells, bacteria, and nutrients, and is not proven nor sufficiently developed. The PRPs concluded in the FS that the concentration of organic compounds which exist in the contaminated area are not sufficiently high to perform as a food source to support biological treatment and since there are other more proven technologies available, in-situ biological treatment of groundwater was not carried forward during evaluation and selection of technology process options during the FS. Based on public interest expressed during the public comment period, USEPA has decided to more closely examine options for in-situ bioremediation of the groundwater. This will be done during the remedial design phase of the project.

A recent technology involving recirculation of leachate to degrade and bioremediate actual waste materials to the greatest extent possible is being implemented at a number of new and existing landfills. This approach relies on catching leachate that is charged with naturally occurring microbes at the base of the landfill and reinjecting it at the top of the landfill so it can percolate back down through the waste layers. However, this approach is not feasible at the Woodstock Municipal landfill site because

there is no leachate collection system to remove leachate, and there is no basal liner to prevent releases of leachate to underlying groundwater.

C. SUMMARY OF COMMENTS FROM THE POTENTIALLY RESPONSIBLE PARTIES

Comment 61: The following written comment was received from the McHenry County Defenders (similar written and verbal comments were also received from several citizens during the public comment period):

SUMMARY OF MAJOR POINTS IN DEFENDER'S LETTER:

1) Vinyl chloride releases to air pathway not considered in RI/FS.

2) Pump and treat seams impractical, USEPA should investigate in-situ bioremediation.

3) Support any alternative that will stop leachate and avoid the need for an expensive leachate control system.

4) A trust fund should be established to assure long-term monitoring.

5) Costs can be reduced by using native grasses.

6) EPA should fund the construction of a co-composting and recycling center next to the site.

Response: From a technical perspective, native grasses and wildflowers could be used on the site if the vegetative cover is compatible with the landfill and would exhibit characteristics similar to the recommended vegetation. These characteristics include erosion control, heartiness, perennial nature, evaportranspiration rate, and maintenance requirements. Additionally, the cost effectiveness of this cap component must be investigated further. At this time, it is unknown whether there would be a cost savings by using a native prairie-type cap. The final decision on the exact type of vegetation to be used would occur during the remedial design.

Vinyl chloride was not detected in the leachate, landfill gas, or the surface water. Releases from these sources are therefore not anticipated. However, the release of vinyl

chloride during pump and treat will be closely monitored by the Agencies, and no releases which exceed the identified ARARs or which may pose a risk to human health and the environment will be allowed.

The USEPA and IEPA will investigate further the potential for bioremediation at a remedial option for clean up of the vinyl chloride plume.

The USEPA and IEPA also fully support the selection of a remedy which minimizes leachate generation, stops releases to the environment, and avoids the need for a leachate collection system if at all possible.

Several mechanisms are available to provide funding during the long-term care period. USEPA will require a trust or similar funding mechanism as part of the remedial activities.

In regards to the final point, while CERCLA does not provide for funding of a co-composting/recycling center, the USEPA and IEPA fully support this initiative and will include the siting of this facility into the overall site design.

Comment 62: A number of Woodstock residents submitted written comments indicating that the remedy chosen should restore the wetlands around the site.

Response: The remedial action selected for the site will not destroy any of the wetlands surrounding the landfill due to placement of the cap. However, restoration of those wetland areas where the removal of the contaminated sediments will occur will be required.

Comment 63: From what I can gather it appears that the USEPA and IEPA feel that the entire landfill must be removed and a new liner placed.

Response: USEPA and IEPA are not recommending that the entire landfill be removed and a liner placed under it. USEPA and IEPA are also not recommending that the landfill be retrofitted with a leachate collection system. But because the landfill does not have a basal liner or leachate collection system, USEPA and IEPA have selected a cap that provides for the best overall protection, is cost effective, meets ARARs, and minimizes leachate production.

Comment 64: Continued sampling and testing on a quarterly, or at least semi-annually basis, should be done.

Response: USEPA agrees with this comment and notes that periodic long term monitoring is a part of each alternative presented in the FS. Monitoring will include sampling, testing, and visual inspection. A detailed monitoring plan will be developed during the Remedial Design phase.

Comment 65: A comment was received that with the rapid advancement in new technology on clean up it would seem more prudent to monitor the landfill and if an immediate problem becomes apparent take care of it at that time.

Response: Current unacceptable health risks exist which do represent an immediate problem. The contaminated groundwater plume and leachate releases to the environment also constitute an immediate problem that must be addressed and remedied. In addition, the lack of action will allow the current landfill cover to continue to deteriorate and may increase the scope and cost of the remediation that is required.

Comment 66: I am firmly opposed to the proposal of outgassing the vinyl chloride, and request that you provide a less hazardous solution.

Response: Emissions of vinyl chloride associated with groundwater extraction and treatment will be required to comply with all ARARs and cannot pose an unacceptable risk to human health and the environment. USEPA cannot prohibit this action from occurring if these conditions are met.

Comment 67: Moving contaminated material from one place to another simply increases the dispersion of the offending chemicals both in rate and in total and creates another contaminated site. It just seems to me to be an unreasonable concept.

Response: The USEPA and IEPA do not propose to move the landfill contents to another site. The preferred remedial action is to cap the landfill and clean up the contaminated groundwater.

Comment 68: I would prefer to hear other options that are available in order to correct this problem. I am sure that there is more than one possible course of action and an alternative can be found to using tax dollars to correct the problem.

Response: The FS document, which is a part of the Administrative Record, presented eleven alternatives which were developed through an extensive screening and evaluation. Prior to development of the final eleven alternatives presented in the FS, a number of various technologies and related process

options were considered for each operable unit. A breakdown of the number of technologies and process options considered during the FS follows:

Operable Unit	Technologies	Process Options
Groundwater	14	17
Soil	17	11
Leachate	7	5
Air	4	5
Surface water	7	17

A detailed description of all options considered and the rationale for selecting the remedy described in the Record of Decision can be found in the public repository which is available for review at the Woodstock Public Library.

Comment 69: Who closed the landfill?

Response: The City of Woodstock was the owner and operator of the Woodstock Municipal Landfill site at the time of closure and the city council voted to close the landfill.

Comment 70: Isn't long term monitoring only for 30 years?

Response: No. Monitoring will be required until such time that no contaminants remain on-site. The 30 year reference is only used to determine the potential total cost of the remedy over a long period of time. Costs beyond the 30 year point are very rough estimates and are generally not considered when costing out the remedy due to the uncertainties associated with this type of estimate.

Comment 71: I support Alternative 5 over the preferred remedy of Alternative 7 because it is more cost effective and still favorably satisfies the 9 evaluation criteria. Based upon the summary it appears the projected $3.4 million difference in the two plans can be attributed to the geosynthetic clay cap. At this time I cannot support the use of geosynthetics due to my concerns with extreme weather conditions and QA/QC/human error problems that can plague installation. The city has also discussed utilizing the WML as a future co-compost facility. If alternative 5 doesn't include the following I urge the USEPA to consider it. The proposed onsite treatment facility could be constructed to discharge treated wastewater into an irrigation system for maintaining the revegetated layer for an indefinite period of time. This setup could reduce cover management, POTW treatment and possibly leachate management/monitoring costs. Cost effective remediation is important especially when you

consider that actual costs most always exceed projected costs.

Response: EPA disagrees that Alternative 5 favorably satisfies all of the 9 evaluation criteria. The Alternative 5 cover system clearly does not satisfy the criterion for compliance with ARARs as it would not provide a sufficient thickness of cover material over the low permeability layer, a sufficient thickness for the low permeability layer, or an adequate permeability of the low permeability layer to meet the 35 IAC 811.314 ARAR for the site. Alternative 5 would also not satisfy the criterion of State Acceptance. In addition, the Alternative 5 cover would not favorably satisfy the criterion of long term permanence (especially the assessment of potential need to replace technical components such as the cap) because it is provided with only 6" of topsoil as a protective cover over the low permeability layer. USEPA concludes that the Alternative 5 cap would have an insufficient thickness of final cover material to adequately protect the low permeability barrier layer and that this would lead to loss of effectiveness and possibly failure of the cap's barrier layer over time. USEPA notes that there is sound technical information available which indicates that the 6" of topsoil proposed on top of the low permeability layer in Alternative 4 will not adequately protect that layer from root penetration, freezing, and other mechanisms that may damage the barrier layer or severely reduce its effectiveness. The frost depth in Northern Illinois exceeds 30" indicating that the barrier layer proposed in Alternative 5 would be subject to potential frost damage since it would only be 6" below the ground surface. USEPA does not believe that a landfill vegetative cover type is available with suitable characteristics, that could be established with a root zone depth of less than 6". Therefore it is likely that opportunistic deep rooted weed species will encroach onto the landfill. USEPA is especially concerned that the type of damage to the barrier layer that is likely to occur from root penetration or freezing could go undetected during the periodic visual inspections of the landfill cover that will be required under an operations and maintenance monitoring program. In addition USEPA does not believe that vegetative cover with suitable characteristics could be proposed that could be established with a root zone depth of less than 6" to prevent damage to the barrier layer proposed in Alternative 5.

Relative to the concern of extreme weather conditions impacting the geosynthetics in the USEPA preferred remedy, the proposed design has three feet of protective cover over the barrier layer, which is approximately equal to typical frost depth in the Woodstock area. The concern expressed regarding installation questions will be addressed by

requiring strict quality assurance/ quality control (QA/QC) requirements and oversight during construction.

USEPA believes that there are positive cost benefits with Alternative 7 when compared to Alternative 5. A 69% reduction in the amount of leachate generated from infiltration could be achieved (equivalent to a difference of approximately 1.3 million gallons per year) for only a 45% increase in cost.

EPA believes that the proposal to irrigate the site with the discharge from the groundwater extraction and treatment system is impractical since irrigation could not be conducted during the winter months.

Comment 72: Is the USEPA proposed remedy also IEPA's preferred remedial alternative.

Response: Yes, USEPA and IEPA agree on the recommended remedial alternative for the Woodstock Municipal Landfill site.

Comment 73: Is the USEPA requiring anything more than the State of Illinois would require?

Response: No, USEPA and IEPA are in agreement as to the preferred remedial alternative.

Comment 74: Are the wetlands protected against any kind of development?

Response: A permit would need to be applied for and received before any part of the wetlands could be legally filled during development. Development of wetlands can and does occur with a permit, but typically an offset or compensatory wetland would need to be developed in a nearby area as a part of the development project.

Comment 75: During the Public meeting the City Attorney requested that USEPA explain what the factual models are for the baseline risk assessment on which the assessment is based.

Response: The health risks associated with current land use conditions would occur under the trespasser scenario - trespassers (children/adolescents playing on-site) would be exposed to PAHs in soil and debris. The health risks under the future land use scenarios would include using the site as a park and recycling/composting center, building a residence downgradient of the site and being exposed to contaminated groundwater, or developing the site as a residential

community. A complete discussion of all the scenarios is included in the Baseline Risk Assessment in the RI report.

Comment 76: The city of Woodstock submitted a written comment stating that they are opposed to the proposed remedy as they believe it is overly conservative and would result in an unnecessary cost to the residents and tax payers of the City of Woodstock. The City of Woodstock agrees that corrective action is needed at the site and that a major component of the corrective action should involve the reduction of leachate generation. The city indicated that they believe that Alternative 4 can provide adequate protection of human health and the environment and that this alternative will protect the residents of the community at a substantially lower cost to the taxpayers. The city states that they must consider the cost and cost-benefit comparison of all expenditures and must justify the expenditure to the local tax payers. The city believes that future risks have been minimized through the institutional controls and in their written comment they offer to consider any additional restrictions or limitations on the future use of the site that are needed to assure that future use activities considered in the Baseline Risk Assessment do not occur. The city requests, in their written comment, that USEPA and IEPA again evaluate the information provided with the FS report and additional information that can be provided by the technical consultants to determine if a less costly option for correction action would provide adequate protection at the site.

In their written comment, the City of Woodstock requests financial assistance from Superfund to pay for at least a portion of the cost.

Response: USEPA and IEPA agree with the City of Woodstock that corrective action is necessary and that a major component of the corrective action should involve reduction of leachate. USEPA and IEPA further note that the only practical control for leachate (without the inclusion of additional engineering controls such as a leachate collection system) at the Woodstock site is an effective cap that minimizes leachate while favorably satisfying the criterion of long term permanence. USEPA disagrees with the City's contention that the preferred alternative (Alternative 7) is overly conservative. USEPA notes that the preferred alternative does not propose a leachate collection system as is typically required, but attempts to remediate existing groundwater contamination and to minimize infiltration into the landfill utilizing a cover that is cost effective and that will remain effective over the long term. USEPA does not agree with the City's proposal that a substandard cap should be constructed and institutional controls relied on

for protection. Institutional controls provide little, if any, protection against ecological and environmental impacts.

EPA does not agree that the preferred alternative represents an unnecessary expense. The cover system proposed in Alternative 4 would not be adequately protective of the environment because it would have an insufficient thickness of final cover material to adequately protect the low permeability barrier layer and that this would lead to loss of effectiveness and possibly failure of the cap's barrier layer over time. USEPA concludes that there is sound technical information available which indicates that the 6" of topsoil proposed on top of the low permeability layer in Alternative 4 will not adequately protect that layer from root penetration, freezing, and other mechanisms that may damage the barrier layer or severely reduce its effectiveness. The frost depth in Northern Illinois exceeds 30", indicating that the Alternative 4 barrier layer would be subject to potential frost damage, since it would only be 6" below the ground surface. There is not a landfill vegetative cover type that is available with suitable characteristics that could be established with a root zone depth of less than 6". Therefore it is likely that opportunistic deep rooted weed species will encroach onto the landfill. USEPA is especially concerned that the type of damage to the barrier layer that is likely to occur from root penetration or freezing could go undetected during the periodic visual inspections of the landfill cover that will be required under an operations and maintenance monitoring program.

As requested by the City, USEPA has reevaluated the information provided with the FS report and concludes that Alternative 7 is the least costly option that can be selected as a remedy and still meet Superfund criteria and be adequately protective. Alternative 4 must be eliminated from further consideration during selection of the remedy because it does not meet Superfund threshold criteria and does not favorably satisfy the primary balancing criteria. Under CERCLA an alternative must comply with ARARs and must provide overall protection of human health and the environment to be considered for selection as a remedy. Also, a consideration of long term effectiveness for the site includes an evaluation of the magnitude of risk from wastes remaining at the site under the alternative, as well as an assessment of the potential need to replace key technical components such as the cap. As discussed previously in this response, USEPA concludes that Alternative 4 would have an insufficient thickness of protective cover over the barrier layer and due to the resultant potential for damage or failure, would not favorably satisfy the criterion of long term effectiveness

and permanence. Alternative 4 does not favorably satisfy the criterion of short term effectiveness, or the USEPA preference for treatment, because no groundwater treatment would be included in the city's proposal.

Based on a cost analysis USEPA concludes that Alternative 7 is cost effective by providing the most cost benefit for effective reduction of leachate generated from infiltration when compared to the other alternatives. Both the City and USEPA agree that reduction of leachate is paramount to the success of any remedial action. Based on results of HELP modeling conducted by the PRPs during the FS, Alternative 7 would result in approximately 1.3 million gallons less leachate being generated each year than if the Alternative 4 cap were installed at the Woodstock Site. Based on the amount of leachate generated by each cap, the Alternative 7 cap is 69% more efficient. This benefit of increased effectiveness comes with only a 45% increase in cost of the capping portion of the remedy. Using Alternatives 4 and 5 as a baseline, Alternatives 10 and 11 reduce leachate generation by an additional 30% beyond the amount reduced by Alternatives 6 and 7, but with an additional 148% increase in cost. Based on this analysis Alternatives 6 and 7 will provide the best cost benefit in reducing leachate generation.

Since there are viable PRPs who are potentially able to fund the remedy, the USEPA and IEPA are not considering funding a portion of this remedy.

The Woodstock Municipal Landfill Steering Committee submitted numerous comments which were bound together in a volume titled "Public Comments on the Proposed Plan Woodstock Municipal Landfill Woodstock, Illinois. These comments are summarized below:

Comment 77: **EPA HAS IMPROPERLY BIASED THE ADMINISTRATIVE RECORD BY ITS REFUSAL TO ACCEPT OR EVEN PLACE IN THE RECORD NUMEROUS SOUND JUDGMENTS MADE BY WARZYN.**

Response: The USEPA reviewed all the Warzyn work products pursuant to the provisions of the Administrative Order on Consent ("AOC") which was signed by the City of Woodstock and Allied Signal Corporation. The AOC clearly stated that Warzyn's activities were subject to USEPA approval in consultation with IEPA. USEPA followed its own Agency guidance in determining which documents it would place in the Woodstock administrative record.

Comment 78: EPA REQUIRED AN APPROACH TO RISK ASSESSMENT WHICH CAUSED THE RISKS FROM THE LANDFILL TO BE OVERSTATED.

Response: The USEPA did not require an approach to the Baseline Risk Assessment that caused the risks from the landfill to be overstated. The risk assessment was developed in accordance with the NCP and USEPA guidance, and clearly documents the fact that the impacts occurring to the surrounding media present unacceptable current and future risks to human health and the environment. The guidance states that the intent of determining a reasonable maximum exposure is to estimate a conservative exposure case that is still within the range of possible exposures to a receptor. This clearly was the rationale used for exposure scenarios developed for the Woodstock site. Additionally, guidance also requires that land use projections, while potentially useful information, are not to be relied upon as proof that a certain land use will or will not occur.

Statements and positions contained under this heading, such as reliance on institutional controls, have been addressed in previous responses.

Comment 79: EPA INCORRECTLY REQUIRED WARZYN TO REMOVE ITS CONCLUSION THAT ALTERNATIVE 4 WOULD PROVIDE PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT.

In their comments in this section the PRPs conclude that the landfill cover reconstruction, which is a primary component of Alternative 4, would be adequately protective of human health and the environment.

Response: USEPA and IEPA have concluded that the proposed Alternative 4 cover reconstruction would not be adequately protective of the environment. The National Contingency Plan directs that alternatives shall be assessed to determine whether they can adequately protect human health and the environment. As stated in 40 CFR 300.430, overall protection of human health and the environment draws on the assessments of other evaluation criteria, especially long-term effectiveness and permanence, short term effectiveness, and compliance with ARARs. The proposed Alternative 4 cover reconstruction does not favorably satisfy the criteria of long term effectiveness and compliance with ARARs for the following reasons:

* Alternative 4 would not favorably satisfy the criterion of *long term effectiveness and permanence*. In accordance with the National Contingency Plan USEPA is required to assess the alternatives for the long term effectiveness and permanence they afford, along with the degree of certainty that the alternative selected will prove successful. The

NCP further directs that factors that must be considered should include the magnitude of residual risk remaining from untreated waste remaining at the conclusion of the remedial action and the adequacy and reliability of controls. Under this criterion USEPA is required to consider the mobility of untreated waste remaining at the conclusion of the remedial action and assess the potential need to replace technical components of the alternative, such as the cap. Based on information submitted by the PRPs in the FS, USEPA concludes that the Alternative 4 cover is not effective in reducing the mobility of waste materials remaining at the conclusion of the remedy. The potential for mobility of wastes remaining in the landfill is directly related to the amount of leachate generated from infiltration. Based on modelling in the FS, it is estimated that the Alternative 4 cover would reduce infiltration to 1.82 inches/year from the current estimated 6.9 inches per year. This is a 74% reduction in leachate generation from infiltration. The minimum cover required by current Illinois regulations would reduce leachate generation by 93%, to approximately 0.51 inches per year. According to the FS, Alternative 4 would result in approximately 1,929,840 gallons of leachate generated per year from infiltration, compared to less than 700,000 gallons per year with the minimum cap required by the current Illinois regulations. Therefore, the Alternative 4 cover would result in the additional generation of approximately 1.3 million gallons of leachate per year compared the minimum cap required by the current Illinois regulations. Because there are no other proposed controls for leachate, such as a leachate collection system or basal liner, USEPA believes that reducing leachate formation to the maximum extent practicable is essential for adequate protection of the environment.

When considering long term protection from residuals and the possible need for replacement of technical components of the remedy, the Alternative 4 cap would have an insufficient thickness of final cover material to adequately protect the low permeability barrier layer and that this would lead to loss of effectiveness and possibly failure of the cap's barrier layer over time. USEPA concludes that there is sound technical information available which indicates that the 6" of topsoil proposed on top of the low permeability layer in Alternative 4 will not adequately protect that layer from root penetration, freezing, and other mechanisms that may damage the barrier layer or severely reduce its effectiveness. The frost depth in Northern Illinois exceeds 30", indicating that the Alternative 4 barrier layer would be subject to potential frost damage, since it would only be 6" below the ground surface. USEPA does not believe that a landfill vegetative cover type is available with suitable characteristics, that could be established with a root zone depth of less than 6". Therefore it is likely that

opportunistic deep rooted weed species will encroach onto the landfill. USEPA is particularly concerned that the type of damage to the barrier layer that is likely to occur from root penetration or freezing could go undetected during the periodic visual inspections of the landfill cover that will be required under an operations and maintenance monitoring program.

* The cap proposed in Alternative 4 would not attain Applicable or Relevant and Appropriate Requirements (ARARs) under State environmental laws and therefore would not satisfy the criterion of *Compliance with ARARs*. The cap proposed in Alternative 4 would not meet the requirements in 35 IAC 811.314 for a landfill cover system because: 1) the low permeability layer as proposed would be an insufficient thickness; 2) the low permeability layer as proposed would have too high a permeability; and 3) the final protective cover layer over the low permeability layer have an inadequate thickness.

Comment 80: The combination of institutional controls, natural attenuation, and monitoring is the appropriate remedy to address the contaminated groundwater.

Response: The use of institutional controls to supplement engineering controls is appropriate and will be a part of the remedy chosen for the Woodstock Municipal landfill site. However, regulations which govern the Superfund program, as found in 40 CFR 300.430(a)(1)(iii)(D), dictate that the use of institutional controls shall not substitute for active response measures (e.g., treatment and/or containment of source material, restoration of groundwaters to their beneficial uses) as the sole remedy unless such active measures are determined not to be practicable, based on the balancing of trade-offs among alternatives that is conducted during the selection of the remedy. Consequently, institutional controls cannot be relied on as the sole remedy at the Woodstock Municipal Landfill site because active remedial measures, such as groundwater extraction and treatment, are practical to address groundwater contamination at the site.

Comment 81: The zone of groundwater contamination is completely beneath the landfill and the adjacent wetlands. The direct effect of extracting groundwater from beneath the wetland, will be the de-watering, and destruction of the wetland environment. In addition, implementation of a groundwater extraction system would require construction activities to occur in the wetlands.

Response: Implementation of any groundwater extraction, treatment or control system requires close monitoring of many aspects that could potentially be impacted by the system. For the Woodstock Municipal Landfill site, aspects that must be monitored include, but are not limited to, horizontal and vertical influence of dewatering, impact on the wetland water levels, limiting potential extraction of additional leachate from the landfill, flow rates, and the ability to reduce and capture contaminants.

USEPA and IEPA have previously agreed with that a pilot study would be appropriate to determine the effect on these specific conditions and allow calibration of the system to limit adverse impacts and maximize treatment efficiency.

In addition to fine tuning the groundwater extraction system, there are a number of viable options which could be used if necessary to prevent dewatering of the wetlands. For example, recharging treated water back into the groundwater by injection wells could limit the potential for dewatering the wetland and could create an artificial barrier control condition between the system and the landfill if the system is determined to be drawing leachate from the landfill.

Comment 82: Groundwater extraction is likely to be ineffective in reducing vinyl chloride concentrations in the aquifer beyond the rate which is already occurring by natural attenuation and biodegradation.

Response: USEPA believes that without obtaining further information through a pilot study extraction and treatment system, reliable conclusions about the lack of effectiveness of such a system, cannot be made.

Since the flow regime appears to be easily confined and the discharge location is known, installation of a groundwater control system is an appropriate response.

Comment 83: **ALTERNATIVE 4 DOES COMPLY WITH THE ARARs FOR THE WOODSTOCK LANDFILL.**

Response: It is contrary to law for the PRPs to assume the responsibility of identifying ARARs for a site. The NCP clearly states that lead (USEPA) and support (IEPA) agencies identify ARARs related to specific actions for a site. The lead and support agencies may also, as appropriate, identify other pertinent advisories, criteria, or guidance. In regards to the Woodstock site, the Agencies have clearly stated that the ARAR in regards to a cap is IAC 811.

It is important to note that the 811 rules were implemented to reduce the amount of leachate generated, reduce the amount of leachate available for escape, reduce leachate contact time, ensure quality control over liner construction, and improve monitoring and response requirements. Because leachate controls such as a leachate collection system or basal liner are not being specified in this Record of Decision, controlling leachate and adequate protection of the environment depend entirely on an effective cap. The necessity to satisfy the evaluation criteria and the above rationale most clearly require that 811 be identified as an ARAR.

Comment 84: The final cover requirement of Section 807.305 is the ARAR applied to the similar Tri-County/Elgin Landfills located in Elgin, Illinois.

Response: This statement is incorrect. The final cover requirement as stated in the Record of Decision for the Tri-County/Elgin Landfill is "Construction of a landfill cover (cap) in compliance with Title 35, Illinois Solid and Special Waste Management Regulations, 807.305 and RCRA Subtitle D cover requirements. The FS did contain a "D" type cap in Alternatives 8 and 9.

It is also important to note that conditions differ between the Tri-County/Elgin landfills and the Woodstock Municipal landfill site. At the Woodstock Municipal Landfill site the current Illinois Solid Waste Cover regulation, 35 IAC 811.314, more fully matches the site, and must be followed for adequate protection of the environment.

There are a variety of other leachate control mechanisms that are being applied to the Tri-County/Elgin Landfills Site that are not specified in the Record of Decision for the Woodstock Municipal Landfill Site. It is important to note that due to many site specific conditions at the Tri-County/Elgin Landfills, the remedial solution includes groundwater collection, treatment, and disposal, and landfill gas collection and flaring. In addition, at the Tri-County/Elgin Landfill, a confining silty-clay layer under the site acts in combination with the horizontal groundwater control system as a landfill liner.

A landfill cover system, by itself, can not be considered out-of context, that is, without the additional combination of remedial actions, as a sole remedial solution to a site. The final remedial action on a site is typically a host of controlling aspects that work together toward a single goal of reducing the risk of exposure. The combination and interaction of several remedial aspects becomes a

synergistic relationship that as a whole is considered the solution to the site.

The primary concern at a landfill is controlling leachate generation and migration. This control can occur at the landfill cover, with leachate extraction, or through groundwater flow control. It is not appropriate to simply compare the recommended landfill cover systems without comparing the site specific geologic, hydrogeologic and other aspects of the remedial package.

Comment 85: USEPA's Region V selected natural attenuation, along with monitoring and institutional controls, as the remedy for groundwater contamination at the Oak Grove Sanitary Landfill, located in Anoka County, Minnesota.

Response: The decision to select natural attenuation as one part of the remedial activities at the Oak Grove Sanitary Landfill in Anoka County, Minnesota was based on several factors such as difficulty in capturing the plume and cost effectiveness. At the Woodstock site, groundwater treatment is practical and cost effective.
It is crucial to emphasize that the rationale for applying natural attenuation at the Oak Grove site has several key elements that differ from the PRPs preference for Alternative 4 at the Woodstock Municipal Landfill. The key elements that differ are as follows:

* Active groundwater remediation was preferred and will be considered short of the five year review period. In the Consent Decree for the Oak Grove site, it was stated that further review of the natural attenuation remedy will be conducted after completion of the cover system and completion of the monitoring network.

* Alternate control mechanisms are being used at the Oak Grove site including a 60 mil membrane layer which is expected to halt further leachate generation.

* Aquifer conditions differ significantly, including horizontal extent of contamination.

APPENDIX I

ADMINISTRATIVE RECORD

U.S. EPA ADMINISTRATIVE RECORD
WOODSTOCK MUNICIPAL LANDFILL
WOODSTOCK, ILLINOIS
ORIGINAL
04/07/93

AR

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1	00/00/00			Miscellaneous Newspaper Articles, Various Dates	13
2	00/00/71	Hughes, G.M., et al, Illinois State Geological Survey	U.S. EPA	Hydrogeology of Solid Waste Disposal Sites in Northeastern Illinois	153
3	00/00/84	Nicholas, J.R., and Krohelski, J.T., U.S. Geological Survey		Report Entitled, "Water in Sand and Gravel Deposits in McHenry County, Illinois"	41
4	09/05/84	Bates, E., U.S. EPA and Winner, L., IEPA		Preliminary Assessment	6
5	04/29/85	Bachunas, C. & Pratl, A., Ecology & Environment, Inc.	Nelson, S., U.S. EPA	Review of Sample Case # 4042 Low Soil Metals	12
6	05/22/85	Bachunas, C. & Pratl, A., Ecology & Environment, Inc.	Nelson, S., U.S. EPA	Review of Sample Case #4042 Low Soil Organic	26
7	08/02/85	Divner, L., IEPA and Nelson, S., U.S. EPA		Site Inspection Report	24
8	06/06/86	Beale, J., Allied Automotive	U.S. EPA	Cover Letter for Completed EPA Form- 8900 1 Notifications	2
9	10/02/87	U.S. EPA		HRS Scoring Package	91
10	00/00/88	Hole, M., Weston	Faryan, S., U.S. EPA	Site Assessment	17
11	07/00/88			Well Sampling Data from 7/88	83
12	07/22/88	Suburban Laboratories, Inc.		Analysis of Organic Chemical Compounds by Gas Chromatography/Mass Spectrometry: Final Report	15
13	08/04/88	Suburban Laboratories, Inc.	Roy Weston, Inc.	Analysis of Samples Received 7/22/88	7

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16	01/00/89	Tsai, C	U.S. EPA	Guidance: "Standard Operating Procedure for the Analysis of Pesticides/PCBs in Water With Low Detection Levels," Revised	33
17	01/03/89	Suburban Laboratories, Inc.	Matt, S., Roy F. Weston, Inc.	Analysis of Samples Received 12/22/88	6
18	02/13/89	Nelson, R., U.S. DOI	Swale, R., U.S. EPA	U.S. DOI's Comments on the RI/FS Plan	3
19	05/00/89	Tsai, C.	U.S. EPA	Guidance: "Standard Operating Procedure for the Analysis of Volatile Organics With Low Detection Limits...," Revised	41
20	05/24/89	Niedergang, N., U.S. EPA	PRPs	Letter of Potential Liability	7
21	06/09/89	U.S. EPA	Waste Management of Illinois, Inc.	Notification of Hazardous Waste Site	5
22	06/19/89	Schaefer, R. and Gade, M., U.S. EPA	U.S. EPA	Region V Municipal Settlement Guidance	10
23	06/26/89	Child, W., IEPA	Constantelos, B., U.S. EPA	Amendment to the Enforcement Multi Site Cooperative Agreement	9
24	07/26/89	Moeller, D., Arrow Aluminum Castings, Inc.	Watts, G.M., U.S. EPA	Response to 104(e) Information Request, Request Forwarded to Previous Owner	7
25	08/16/89	Straw, A., Waste Management of Illinois, Inc.	Fulghum, M., U.S. EPA	FOIA Requesting Linking Documentation Regarding Waste Management	4
26	08/31/89	Caldwell, M., City of Woodstock	Swale, R. and Fulghum, M., U.S. EPA	Letter re: Recommendation That Client Approve 8/28/89 Draft Consent Order	2
27	09/01/89	Maher, K., Cromer, Eaglesfield & Maher	Swale, R. and Fulghum, M., U.S. EPA	Letter re: Recommendation That Client Sign 8/28/89 Draft Consent Order	2
28	09/19/89	U.S. EPA	Respondents	Administrative Order By Consent, Signature Pages	3

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WOODSTOCK, ILLINOIS
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AR

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1	10/09/92	Bolen, W., U.S. EPA	Vagt, P., Warzyn Inc.	Letter re: U.S. EPA's Comments on the Draft FS	4
2	00/00/93	Citizens	U.S. EPA	Citizens Signatures Requesting a 30 Day Extension to the Public Comment Period	2
3	04/07/93	U.S. EPA	Public	Public Notice: Announcement of the Public Comment Period re: the Remedial Alternatives, Which Ends May 6, 1993	1
4	04/12/93	Bolen, W., U.S. EPA	Vagt, P., Warzyn Inc.	Letter re: U.S. EPA's Receipt of the Draft FS	1
5	05/12/93	U.S. EPA	Public	Public Notice: Public Comment Period Extended Until June 5, 1993	1
6	05/26/93	U.S. EPA	Public	News Release: "EPA To Hold Workshops on Woodstock Superfund Site June 2"	1
7	05/26/93	U.S. EPA	Public	Public Notice: U.S. EPA To Hold Workshops on the Woodstock Superfund Site on June 2, 1993.	1
8	06/04/93	Clifton, T., City of Woodstock	Bolen, W., U.S. EPA	City of Woodstock's Public Comment to the Proposed Plan	7
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WOODSTOCK, ILLINOIS
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(These guidance documents are available at U.S. EPA, Region V)
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29	09/19/89	McGuire, M.	U.S. EPA	Reichert Chevrolet & Oldsmobile Sales, Inc.'s Signature Agreeing to the Consent Order	2
30	09/29/89	U.S. EPA	Respondents	Administrative Order By Consent, Amendment #1	5
31	09/29/89	U.S. EPA	Respondents	Administrative Order By Consent for RI/FS, Final	47
32	09/29/89	U.S. EPA		News Release: 'EPA Identifies 9 New Midwest Sites for Superfund Cleanup"	2
33	10/02/89	Garry, R., John J. Horeled Law Office	Fulghum, M., U.S. EPA	Letter Requesting That Arrow Aluminum Castings, Inc. Be Released From Liability	3
34	10/02/89	U.S. EPA		News Release: "City of Woodstock, Allied Chemical Corp. and Others Agree to Investigate the Woodstock Municipal Landfill Site"	1
35	12/05/89	Nelson, R., U.S. DOI	Swale, R., U.S. EPA	Response to Request for Information on Wetlands	4
36	12/06/89	Clay, D., U.S. EPA	U.S. EPA	Guidance: "Interim Policy on CERCLA Settlements Involving Municipalities or Municipal Wastes," OSWER Directive #9834.13	33
37	12/27/89	Warzyn, Inc.	U.S. EPA	Map: RI/FS-Site Base Map with 100 Foot Survey Grid	10
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39	04/00/90	Warzyn Inc.	U.S. EPA	QAPP, Vol. 1 of 3, With Appendices A, B and C	360
40	04/00/90	Warzyn Inc.	U.S. EPA	QAPP, Vol. 2 of 3, Appendices D, E and F	445
41	04/00/90	Warzyn Inc.	U.S. EPA	QAPP, Vol. 3 of 3, Appendices G, H, I, J, K, and L	330
42	04/09/90	Versar, Inc.	U.S. EPA	Technical Oversight Data Quality Objectives	1
43	04/20/90	Warzyn, Inc.	U.S.EPA	Map: RI/FS-Site Base Map Showing Coordinates- & Sampling Locations	10
44	06/00/90	U.S. EPA		Fact Sheet: "Superfund Study Begins at Woodstock Municipal Landfill"	8
45	06/03/90	Angstmann, J., Versar, Inc.	U.S. EPA	Community Relations Plan, Final Plan	27

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46	06/18/90	La Faire, M., U.S. EPA	Lesser, T., U.S. EPA	Report on Public Meeting Held 6/13/90	4
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48	07/24/90	Compuchem.rtp	U.S. EPA	Volatile Organics Analysis Data Sheets	2
49	08/08/90	Warzyn, Inc.	U.S. EPA	Inorganic Analysis Data Sheet Marked 'Leachate Data'	8
50	08/13/90	Bosse, M., Versar Inc.	Swale, R., U.S. EPA	Fax Cover with Boring Logs From 8/1/90-8/13/90	7
51	08/15/90	Warzyn, Inc.		Drawing of X-Sections	2
52	08/28/90	Clay, D., U.S. EPA	U.S. EPA	OSWER Directive No. 9835.15: "Performance of Risk Assessment in Remedial Investigation/Feasibility Studies Conducted by PRPs"	4
53	10/17/90	Maher, K., Cromer, Eaglesfield & Maher	Swale, R., U.S. EPA and Washburn, S., IEPA	Notice of Force Majeure	3
54	10/30/90	Swale, R., U.S. EPA	Residents	Cover Letter with Well Sampling Results	5
55	11/00/90	Warzyn Inc.	U.S. EPA	Technical Memorandum: Wetlands Delineation	99
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57	12/00/90	Warzyn Inc.	U.S. EPA	Technical Memorandum: Hydrogeological Investigation, Phase 1	160
58	12/00/90	Warzyn Inc.	U.S. EPA	Technical Memorandum: Preliminary Baseline Risk Assessment	32
59	12/00/90	Warzyn Inc.	U.S. EPA	Technical Memorandum: Source Characterization	132
60	12/00/90	Warzyn Inc.	U.S. EPA	Technical Memorandum: Surface Water/Sediment Evaluation	47
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62	12/18/90	Warzyn, Inc.	U.S. EPA	Map: RI/FS-Water Table Contour Map (Nov. 5, -1990)	10
63	01/16/91	Bosse, M., Versar, Inc.	U.S. EPA	QAPP: Oversight Acceptance of Collocated Samples	140

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65	02/00/91	Widman, J., Warzyn Inc.	Swale, R., U.S. EPA	Technical Memorandum: Surface Water/Sediment Evaluation	50
66	02/01/91	Warzyn, Inc.	Swale, R., U.S. EPA	Fax Cover with Field Boring Logs (1/91)	5
67	02/01/91	Warzyn, Inc.	Swale, R., U.S. EPA	Fax Cover with Field Boring Logs (1/91)	3
68	02/04/91	Vagt, P., Warzyn, Inc	Swale, R., U.S. EPA	Groundwater Sampling Parameters (Phase I: Round 2; Phase II: Round 1)	2
69	03/00/91	U.S. EPA		Fact Sheet: "Woodstock Municipal Landfill Superfund Site"	6
70	03/14/91	Anderson, D., City of Woodstock	Bacon, J.M., McHenry County Dept. of Health	Invitation to Informational Meeting Regarding the RI	2
71	04/03/91			Statistical Summary of Sediment Background Data for RI/FS	1
72	04/15/91	Bosse, M., Versar	Swale, R., U.S. EPA	Transmittal Letter with List of Solid Waste Disposal Sites in Northeastern Illinois	7
73	04/18/91	Maher, K., and Ellis, M.	U.S. EPA	Respondents' Reply to U.S. EPA's Response to Notice of Dispute	11
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75	04/23/91	Vagt, P., Warzyn, Inc	Swale, R., U.S. EPA	Correction for Data of 4/3/91	3
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77	06/18/91	Hudak, D., U.S. DOI	Swale, R., U.S. EPA	U.S. DOI's Comments on the Draft FS	3
78	07/00/91	Warzyn Inc.	U.S. EPA	QAPP Addendum With Attachments	28
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84	02/12/92	Bolen, B., U.S. EPA	Vagt, P., Warzyn Engineering Inc.	U.S. EPA's Comments on the 2nd Draft RI Report	10
85	05/05/92	Bolen, W., U.S. EPA	Widman, Warzyn Inc.	U.S. EPA's Review and Comments on the March 1992 RI Report/Ecological Assessment	2
86	05/15/92	Vagt, P., Warzyn Inc.	Bolen, B., U.S. EPA	Request for Clarification on U.S. EPA Comments Dated May 5, 1992	2
87	05/20/92	Vagt, P., Warzyn Inc.	Bolen, W., U.S. EPA	IEPA's Comments on the Baseline Risk Assessment, Final RI Report and Warzyn's Response to IEPA's Comments	31
88	05/21/92	IDPH & ATSDR	U.S. EPA	Interim Preliminary Health Assessment	18
89	06/00/92	Warzyn Inc.	Woodstock PRP Group Steering Committee	Final Remedial Investigation Report, Vol. I	301
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92	06/11/92	Vagt, P., Warzyn Inc.	Bolen, W., U.S. EPA	Response to Final U.S. EPA's Comments re: RI Report	1
93	06/12/92	Widman, J., Warzyn Inc.	Bolen, W., U.S. EPA	Response to U.S. EPA's Comments on the Final Draft RI Report Dated May 20, 1992	2
94	07/16/92	Bolen, W., U.S. EPA	Widman, J., Warzyn Inc.	U.S. EPA's Response to 7/10/92 FS Schedule	6
95	07/31/92	Vagt, P., Warzyn Inc.	Bolen, W., U.S. EPA	Schedule for the FS	5
96	08/04/92	Bolen, W., U.S. EPA	Falco, C., IEPA	Request for IEPA's Review of the Alternatives Array	2
97	09/09/92	Bolen, W., U.S. EPA	Vagt, P., Warzyn Inc.	Letter re: U.S. EPA's Comments on the Draft Alternatives Array	3
98	10/00/92	U.S. EPA		Fact Sheet: "Remedial Investigation Complete"	6
99	10/30/92	Maher, K., Cromer, Eaglesfield & Maher	Bollo, N., U.S. EPA	Letter re: RPM's Directions to Remove Portions of Text Discussing Institutional Controls in the FS	7

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100	12/08/92	Bolen, W., U.S. EPA	Vagt, P., Warzyn Inc.	Letter re: U.S. EPA's Second Disapproval Notice for the Draft FS	10
101	12/14/92	Vagt, P., Warzyn Inc.	Bolen, W., U.S. EPA	Request for Meeting to Discuss U.S. EPA s 12/8/92 Comments on the First Draft FS Report	1
102	12/22/92	Vagt, P., Warzyn Inc.	Bolen, W., U.S. EPA	Letter re: Submitting Second Draft of FS in Accordance With the Schedule	1
103	02/24/93	Falco, C., IEPA	Bolen, W., U.S. EPA	IEPA's Comments on the ARAR's and the FS	4
104	03/04/93	Bollo, N., U.S. EPA	Maher, K., Cromer, Eaglesfield & Maher	Letter re: Reasons For Believing that MCLs Are Not ARARs	3
105	03/15/93	Bolen, W., U.S. EPA	Vagt, P., Warzyn Inc.	Letter re: Third Disapproval Notice for the FS Report	6
106	03/17/93	Bolen, W., U.S. EPA	Vagt, P., Warzyn Inc.	Letter re: Third Disapproval Notice for the FS Report, Follow-up to 3/15/93 Letter	1
107	03/22/93	Vagt, P., Warzyn	Bolen, W., U.S. EPA	Request for Clarification on U.S. EPA Comments Dated 3/15/93 re: the Draft FS Report	4
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U.S. EPA GUIDANCE ADDENDUM TO THE ADMINISTRATIVE RECORD
WOODSTOCK MUNICIPAL LANDFILL
WOODSTOCK, ILLINOIS

(These guidance documents are available for review at U.S. EPA, Region V)

04/07/93

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1	10/02/85	Porter, J.W., OSWER	U.S. EPA	CERCLA Compliance With Other Environmental Statutes, Final, OSWER #9234 0-2	19
2	10/01/86	OERR/OSWER	U.S. EPA	Superfund Public Health Evaluation Manual, Final, OSWER #9285 4-1	500
3	12/01/87	OERR/OWPE	U.S. EPA	A Compendium of Superfund Field Operations Methods, Final, OSWER #9355 0-14	550
4	08/08/88	OERR	U.S. EPA	CERCLA Compliance With Other Laws Manual, Draft, OSWER #9234 1-01	245
5	10/01/88	OSWER/OERR	U.S. EPA	Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Final, OSWER #9355 3-01	390
6	02/00/91	OERR	U.S. EPA	Conducting Remedial Investigations/Feasibility Studies for CERCLA Municipal Landfill Sites, OSWER #9355.3-11	301
7	07/00/91	U.S. EPA	U.S. EPA	Guidance on Oversite of Potentially Responsible Party Remedial Investigations and Feasibility Studies, Vol. 1, Final, OSWER #9835.1 (d)	124
8	07/00/91	U.S. EPA	U.S. EPA	Guidance on Oversite of Potentially Responsible Party Remedial Investigations and Feasibility Studies, Final, Vol. 2, OSWER #9835.1 (c)	193

APPENDIX II

RESPONSIVENESS SUMMARY

APPENDIX II
RESPONSIVENESS SUMMARY
WOODSTOCK MUNICIPAL LANDFILL SUPERFUND SITE
WOODSTOCK, ILLINOIS

OVERVIEW

In accordance with CERCLA Section 117, 42 U.S.C. Section 9617, the United States Environmental Protection (USEPA) held a public comment period from April 9, 1993 to June 9, 1993 to allow interested parties the opportunity to comment on the Remedial Investigation (RI), Baseline Risk Assessment (BLRA), Feasibility Study (FS), and the Proposed Plan for the Woodstock Municipal Landfill (the "Site"). USEPA presented the Proposed Plan to the public at an April 28, 1993 public meeting held at the Woodstock Public Library. At this meeting, the RI, FS, and Proposed Plan were summarized, questions answered, and comments were accepted from the public.

The purpose of this responsiveness summary is to document comments received during the public comment period and USEPA's responses to these comments. All comments received by the USEPA were reviewed. Those comments are grouped and summarized in this document and were considered prior to USEPA's final decision for remedial action at the site. Comments received that were outside the scope of this responsiveness summary are not addressed.

An Administrative Record has been compiled upon which the selection of the remedy is based with an index as Appendix I.

The responsiveness summary is presented in the following sections:

SECTION A. BACKGROUND ON COMMUNITY INVOLVEMENT
SECTION B. SUMMARY OF COMMENTS FROM THE LOCAL COMMUNITY
- 1.0 TECHNICAL ISSUES
  - 1.1 NATURE AND EXTENT OF CONTAMINATION
  - 1.2 COVER ISSUES
  - 1.3 GROUNDWATER EXTRACTION
  - 1.4 ECOLOGICAL ISSUES
  - 1.5 EXPOSURE AND RISK ASSESSMENT
  - 1.6 COMPARISON TO OTHER SITES
  - 1.7 EQUIVALENT PERFORMANCE OF OTHER ALTERNATIVES
- 2.0 PERMANENCE OF REMEDY AND EFFECTIVENESS
- 3.0 SUPERFUND PROCESS
  - 3.1 SUPERFUND PROCESS - GENERAL QUESTIONS
  - 3.2 SUPERFUND PROCESS - PRP AND ENFORCEMENT ISSUES
  - 3.3 COMMUNITY ACCEPTANCE/INSTITUTIONAL CONTROLS
- 4.0 LANDFILL REGULATIONS/STATE RESPONSIBILITY
- 5.0 MISCELLANEOUS COMMENTS

SECTION C. SUMMARY OF COMMENTS FROM THE POTENTIALLY RESPONSIBLE PARTIES

A. BACKGROUND ON COMMUNITY INVOLVEMENT

Since this site was listed on the National Priorities List (NPL) in October 1989, community concern and involvement have remained strong. There has been considerable congressional and media attention on the site for the past several years and more recently since the proposed plan has been issued. The McHenry County Defenders have also been extremely active in enhancing community awareness.

Judging from the comments received during the public comment period, one faction in the community strongly opposes the recommended alternative and another faction strongly supports USEPA's preferred remedial choice. The City of Woodstock, who is a potentially responsible party for the site, opposes USEPA's recommended alternative because they believe it is overprotective and too costly. The PRPs prefer Alternative 4 which, in general, included reconstruction of the existing cap. Many residents of Woodstock agree with the PRPs' expressed concerns. A community group, the McHenry County Defenders, advocated a similar remedy to USEPA's preferred alternative that also involved a geosynthetic cap, but differs in that they prefer bioremediation of the contaminated groundwater instead of extraction through a pump and treat technology. They also supported placement of a "natural prairie" type vegetative cover.

B. SUMMARY OF COMMENTS FROM THE LOCAL COMMUNITY

This section summarizes both written comments received by USEPA during the public comment period and verbal comments from the public meeting on April 28, 1993. Most of the written comment letters received by USEPA during the public comment period contained multiple comments on different issues. In many cases an essentially similar comment was made by several different commentors. In order to focus the response, similar comments were grouped together or were paraphrased, if this could be done without changing the intent or meaning of a specific comment received by USEPA.

1.0 TECHNICAL ISSUES

1.1 NATURE AND EXTENT OF CONTAMINATION

Comment 1: What are the concentrations of vinyl chloride in the ground water adjacent to the landfill and what kind of levels of vinyl chloride did you find in the control wells that are not ordinarily contaminated? What is the maximum allowable limit of vinyl chloride in groundwater? What is the source of the vinyl chloride?

Response: The average vinyl chloride concentration detected in the monitoring wells that were contaminated, MW4D and MW8, was approximately 20 parts per billion (ppb). Vinyl chloride was not detected in any of the control wells (referred to as background wells). In accordance with Illinois Groundwater Quality Standards in 35 Illinois Administrative Code Section

620.410, the maximum allowable limit of vinyl chloride in groundwater is 2 ppb. The source of the vinyl chloride is the landfill. A specific area or specific source within the landfill was not identified, but the contaminated groundwater plume extends downgradient from the south edge of the landfill.

Comment 2: How large is the vinyl chloride plume in terms of area and how many gallons of water have to be treated through the pump and treat extraction process?

Response: The vinyl chloride plume was estimated in the RI to have an area of approximately 220,000 square feet. The volume of groundwater containing vinyl chloride was therefore estimated to be 6.6 million gallons. While it would be possible to remove 6.6 million gallons of water from the aquifer in 92 days by pumping at 50 gpm, this amount of pumping would not result in lowering the levels of vinyl chloride to 2 ppb, the maximum allowable level due to factors such as adsorption of the vinyl chloride to the aquifer materials. Several pumping events would be necessary to lower the vinyl chloride concentration to this concentration. At this time, the number of required pumping events is not known, therefore an accurate amount of gallons of groundwater necessary to be removed cannot be determined. It was estimated in the RI that between 52 and 130 million gallons of groundwater may be removed before the groundwater is cleaned up to the 2 ppb level.

Comment 3: If the vinyl chloride is a final product of the degradation, isn't it going to go away by itself shortly?

Response: In the FS it was estimated that it would take 40 to 70 years for groundwater contamination in the vinyl chloride area to reach groundwater standards through advective flushing and other natural processes, assuming no further vinyl chloride migrates from the landfill.

Comment 4: Have any dense non-aqueous phase liquids been found? Have you sampled all the way down to the base of the aquifer?

Response: No dense non-aqueous phase liquids were found during the RI at the site. A number of the ground-water monitoring wells, located both upgradient and downgradient of the landfill, are monitored such that they extend to the base of the upper aquifer and slightly into the underlying clay till.

Comment 5: Are there any current or existing unacceptable human risks found in the groundwater around the landfill? Have you done any testing? When was the last time that testing was done?

Response: No existing unacceptable human health risks have been identified for groundwater around the landfill. Sampling of select residential wells was last conducted during July 1990. In addition, it is important to note that Superfund regulations, as found in Section 300.430 Volume 40 of the Code of Federal Regulations, require that USEPA characterize potential threats to human health and the environment, as well as existing threats. Shallow offsite groundwater downgradient of the landfill was determined to pose an unacceptable potential human health risk, due to the presence of vinyl chloride.

1.2 COVER ISSUES

Comment 6: Why is there a difference in the amount of wetlands that would be filled in between the clay cap and the geosynthetic cap? How much would that difference be?

Response: At the landfill cover perimeter the existing refuse side slopes will be regraded to approximately a 4 to 1 slope (i.e. 4 ft of horizontal distance for each 1 ft of vertical drop) in order to accommodate an up-graded cover. Thicker cover materials will require that side slopes extend further out from the landfill to maintain the same slope.

In the FS, it was estimated that 1 to 2 acres of wetlands would be lost and would have to be replaced if a cap as specified in Alternatives 8, 9, 10, or 11 was selected. The cap as proposed in Alternative 7, the USEPA's selected remedy, was also evaluated in the FS by the PRP's consultant and it was determined that no wetland loss would occur with this type of cap.

Comment 7: Why is a cap necessary if the waste has been there almost 20 years, if no contamination has been released, and if contaminants aren't in the Kishwaukee River yet.

Response: It was documented during the RI that the landfill is impacting the groundwater, surface water and sediments and that the primary source of these impacts comes from the leachate which is emanating from the landfill.

During the RI, the current landfill cover was examined in several areas and was found to be inconsistent in thickness and types of materials. Although the RI workplan called for

a phased investigation of the existing cover, based on that initial investigation it was determined that the existing cover was inadequate and that a more detailed investigation was not warranted. The existing cover is degraded allowing precipitation to flow through the waste to generate leachate, and is eroded to the point where refuse is exposed at the surface. In addition, the current cap is poorly graded and rainwater forms small ponds in several areas on the landfill which directly drain into the landfill forming leachate.

The purpose of capping the landfill is to limit infiltration and thus leachate generation, and prevent further releases from the landfill to groundwater, surface water, and air. A cap would also reduce the potential for direct contact with the waste and prevent further degradation of the wetlands surrounding the site.

Comment 8: What is the nature of the synthetic membrane? Is it high density polyethylene?

Response: The membrane which will be part of the new cap will likely be a polyethylene barrier. The density would be subject to USEPA and IEPA approval depending on the other components included in the cover. Final approval of all cap components will occur during the remedial design stage.

Comment 9: How thick is the membrane and how will it be seamed? My concern is not so much the membrane itself, but where it's seamed, because heat may volatilize the components of the plastic and their loss lead to cracks in the membrane.

Response: A high or low density polyethylene membrane would a minimum of 20 mils (20 thousandths of an inch) thick. If seaming is done by extrusion welding then a minimum of 30 mils would be required.

Since the temperatures used during welding the seam would be in the same range as those used in the original membrane manufacturing process, heat extrusion welding should not change the chemical or physical nature of the polyethylene. USEPA would require that seam welds be systematically tested during construction of the barrier layer at the landfill. A seam weld would only be acceptable if the membrane adjacent to the seam weld tears before the seam itself. In other words, as a result of the extrusion welding process the seam that is welded would become stronger than the other parts of the membrane.

Comment 10: EPA argues that Alternative 4 was the essentially the same cap that was placed on the landfill when it closed, and has since failed. Didn't USEPA overlook the fact that the old cover was not really "engineered" as it would be under Alternatives 4 and 5? Can't we assume that this time around the city would try harder to make the cap a little better and that they would design it better than it was?

Response: Yes, USEPA agrees that the Alternative 4 cap would likely be better engineered than the cap that was placed over the landfill when it was closed. Regardless of the cover system selected, the cap will have specific design requirements, quality assurance/quality control requirements during construction, and subsequent monitoring, maintenance and inspection requirements that were likely not present for the cap installed when the landfill was closed. However, the cap in Alternatives 4 and 5 would not provide for overall protection of human health and the environment due to its inability to prevent further releases to the environment. The cap proposed in these alternatives would, as stated in the FS, consist of suitable fill. As is evident now, this cap (the "807" type cap as specified in Illinois regulations) failed to prevent releases from the landfill to the environment, and does not have a sufficient amount of soil cover to protect the low permeability layer beneath it or sustain vegetation above it. In addition, this type of cap is no longer permitted to be constructed by the State of Illinois. The regulations now require the type of cap specified in Alternative 7.

Comment 11: Wouldn't the Alternative 4 clay cover be better than Alternative #7 geosynthetic cap, which has had very limited experience and might crack in the future?

Response: Information and performance data to date has indicated that the membrane as specified in the remedy is not impacted by frost or desiccation, and can stretch significantly without failure in response to differential settlement of a landfill's contents. A two-foot clay cover with six inches of topsoil is more likely to crack due to freeze/thaw cycles, desiccation and differential settlement.

There is sufficient experience with membranes as there have been more than 10,000 installations of polyethylene membranes around the world in the past decade.

Available test data for determining the life of HDPE indicates the membrane may stay intact for 20 to 2000 years. If the membranes are installed correctly, test data indicates the membrane may outlive the long-term care periods of 30 years.

Comment 12: If suitable fill in Alternative 4 were understood by you to include two feet of $1x10^{-7}$ cm/sec clay over recontoured landfill, would you then feel that would be acceptable?

Response: No. Superfund regulations, as found in Section 300.430(f)(i)(A) of Volume 40 of the Code of Federal Regulations, require that the remedy chosen be in compliance with applicable or relevant and appropriate State and Federal regulations (ARARs), unless an ARAR is waived. A low permeability layer comprised of 2 feet of $1x10^{-7}$ cm/sec clay would not be acceptable because it would not meet the ARAR specified for the landfill cap, 35 IAC 811.314. 35 IAC 811.314 requires that the low permeability layer be at least equivalent to 3 feet of compacted earth with a permeability of no more than $1x10^{-7}$ cm/sec, in combination with 3 feet of additional protective cover soil.

Comment 13: If we could convince you legally the only requirement was 35 IAC 807, would USEPA still want three feet of $1x10^{-7}$ cm/sec compacted earth?

Response: If 35 IAC 807 were the ARAR, then the USEPA and IEPA would not require a low permeability layer that is equivalent to 3 feet of $1x10^{-7}$ clay. It is important to note that one reason the 35 IAC 807 regulation was replaced by the 35 IAC 811.314 regulation in Illinois is because past experience with "807 covers" indicated that they did not function adequately (i.e. did not prevent releases to the environment).

1.3 GROUNDWATER EXTRACTION

Comment 14: What is the cost estimate for groundwater extraction and treatment, and what percentage is that of the total cost of the Alternative 7 proposed remedial plan?

Response: Based on the cost estimates in the FS, the groundwater pump-and-treat system capital costs would be $442,000 or about 6 percent of the capital costs. The operation and maintenance portion for the pump-and-treat system is 46 percent or approximately $60,000 per year.

Comment 15: If your cap stops water from coming in contact with whatever is in this dump, aren't you going to greatly reduce the degradation of what is in that dump, and wouldn't a much longer time be required for groundwater extraction and treatment, instead of the three to five years estimated in the FS?

Response: The purpose of the groundwater extraction and treatment program is to remediate vinyl chloride groundwater contamination which is located downgradient of the landfill. Because vinyl chloride was not identified in the landfill leachate or landfill gas, it is currently believed that it is either a degradational product of something released from the landfill in the past, or is a primary contaminant that was released from the landfill in the past and is no longer being released. Note also that no potential parent products for the vinyl chloride, other than traces of 1,2 dichloroethene were identified in groundwater or leachate. Therefore it is assumed that the vinyl chloride contamination can be cleaned up by remediating only the downgradient plume. The improved landfill cap will serve to minimize leachate formation in the landfill and help to ensure that future releases do not occur.

Comment 16: Groundwater is moving laterally through the waste materials. Shouldn't groundwater contamination continue to occur? What is the two to five year groundwater pump and treat estimate based upon?

Response: The two to five year groundwater pump and treat estimate is based upon the assumption that vinyl chloride, or parent compounds that degrade to form vinyl chloride, are not currently being released from the landfill. Consequently it is believed that the plume can be cleaned up if there is no external source feeding it. These assumptions are based on the fact that no vinyl chloride was detected in landfill leachate or landfill gas, and no potential vinyl chloride-forming parent compounds where detected in groundwater, other than low concentrations of 1,2-dichloroethene. When the landfill was originally constructed, refuse was placed on the ground surface without excavating below the water table. Therefore the primary reason that leachate is formed within the landfill is because precipitation infiltrates through the cover and mounds in the refuse. At this time, a large amount of leachate is being generated and is being released to the surrounding environment. If this infiltration and associated mounding were not to occur, very little leachate would be formed, and the landfill contents will degrade at a very slow rate. Shallow groundwater, flowing from north to south, flows mainly below the refuse with only marginal refuse contact because the natural water table would have been below or at the original ground surface which is at the base of the refuse. Therefore constructing an effective cap on the landfill will minimize these adverse impacts and the chance of future releases from the landfill further impacting downgradient groundwater. Given that the impact of lateral groundwater flow through the base of the refuse currently appears to have a

negligible impact, the future impact is also expected to be negligible.

Comment 17: Are there pretreatment standards for the discharge of treated groundwater from solid waste landfills to a publicly owned treatment works? Does the City of Woodstock have a number for BOD (Biochemical Oxygen Demand) that they'll allow?

Response: The City of Woodstock does have a sewer discharge pretreatment ordinance that requires specific chemicals and other parameters to be below certain limits prior to discharge to the municipal treatment plant. The discharge flow and concentrations from the groundwater extraction system would be subject to these limits. Also, there are Federal and State ARARs pertaining to discharges to a POTW that have been identified in the Record of Decision. These ARARs will also have to be met for this type of action to occur.

The groundwater would have to be analyzed for each of the identified ARARs, and the flow rate would have to be acceptable for the contaminated groundwater to be discharged to the POTW.

If the pretreatment standards cannot be achieved, an onsite pretreatment system will have to be constructed. This remedial action will be fully evaluated during the remedial design stage.

USEPA attempted to confirm the exact number for BOD that was allowable, but the City of Woodstock did not provide this information in time for this response.

Comment 18: How good is the cost estimate for groundwater remediation if we don't know whether an onsite treatment facility would have to be put in place if the public treatment plant cannot accept the effluent because it exceeds their standards?

Response: The cost figures provided in the FS for the groundwater extraction system are a reasonable and conservative estimate because they consider on-site pretreatment. If the City of Woodstock POTW could handle the flow and the chemical constituents, then costs associated with a granular activated carbon and air stripping tower could be eliminated.

Comment 19: Isn't extracting groundwater during treatment going to ruin the wetlands? If you find out that you cannot do the

groundwater pump and treat program without dewatering wetlands, what happens then?

Response: One of the environmental goals for this site is to preserve and protect the wetlands. This is specifically why a pilot study would need to be performed for the groundwater extraction system. If the study demonstrated an impact on the wetland would occur from a full scale pumping system, several options would be available. First the system pumping rates and number of wells could be scaled back while ensuring extraction of the contaminants is still effective. Secondly, once the water is treated, it could be reintroduced to the wetland, creating a balance in the water flow.

In addition, prior to developing a pilot study for pump and treat, the Agencies will be investigating further the potential to use bioremediation as a means of remedying the vinyl chloride plume. The Agencies will provide additional information to the community and the other interested parties as this potential remedy develops.

Comment 20: How long will you have to go with a groundwater treatment pilot program before you know whether it's working or not?

Response: This determination cannot be made at this time with any reasonable degree of certainty until such time as the pilot program is underway, data is collected, and preliminary evaluations and/or modifications to the system are completed.

Comment 21: If a groundwater extraction and treatment program were done first and after a period of time that shows that the groundwater has been cleaned up to vinyl chloride concentrations below 2 parts per billion, would the geosynthetic liner be required, or could we then put on a two foot of suitable material on the landfill and go back to the Alternative 4 cover?

Response: The requirement to comply with 811.314 for the landfill cover, as opposed to 807, is based on the inadequacy of the 2-foot suitable soil option. One of the reasons for the 811.314 cover requirements is to further reduce future leachate generation and prevent releases to the environment. The groundwater extraction requirement is currently based on removal of only the vinyl chloride.

1.4 ECOLOGICAL ISSUES

Comment 22: What are the environmental effects of that dump out there? What are the specific effects on the environment? What is the effect of the leachate on Kishwaukee River?

Response: The ecological assessment conducted during the RI indicated that copper, mercury, and zinc concentrations in surface soils at the site may adversely affect small terrestrial mammal populations. Leachate is contributing to high iron in surface waters posing a threat to aquatic receptors. No conclusions could be reached as to whether ecological effects have occurred due to the presence of other inorganic contaminants (metals) identified in the surface water and sediments due to the lack of biota sampling or biological assays.

Comment 23: As vinyl chloride contaminated groundwater discharges into the wetlands, is this a violation of surface water quality standards?

Response: Vinyl chloride has been detected in groundwater monitoring wells, downgradient from the landfill, which are located in the wetland. Vinyl chloride was not detected in any of the surface water samples that were collected during the RI. There is currently no evidence of surface water quality violations resulting from discharges from the landfill.

Comment 24: Do we know what vinyl chloride contaminated groundwater discharge is doing to the wetlands as a biological system?

Response: There was no evidence uncovered during the RI indicating that the vinyl chloride groundwater contamination is impacting the wetlands as a biological system.

Comment 25: Why is the consultant calling this pool of vinyl chloride stagnant if it is moving upward, and what makes it move upward? I cannot understand how this groundwater is stagnant. Generally groundwater moves in one direction or another, although perhaps very slowly. I would like to have an explanation in the responsiveness summary as to how the stagnant groundwater can be explained and what the consequences of this now apparent upward movement of the vinyl chloride into the wetlands is on the biological ecological systems in the wetlands.

Response: The groundwater itself is not stagnant. Groundwater generally moves from high points (hills) to low points (valleys) where it may intersect the ground surface to feed

streams and rivers. In the case of the Woodstock Municipal Landfill site, the shallow groundwater flows downhill towards the wetlands southwest of the site where it discharges to form standing water during wet periods of the year. The wetland area southwest of the landfill is a low point for the entire area and shallow groundwater from all directions appears to move towards it (like water moving towards the lowpoint in a bowl) and discharges into the wetlands which are drained by Kishwaukee River. In this way the vinyl chloride groundwater contamination plume has moved away from the landfill and now occupies an area in the shallow aquifer under the wetlands. Because there appears to be shallow groundwater flow towards the wetlands from all areas, the PRPs refer to the groundwater contamination plume as "stagnant".

1.5 EXPOSURE AND RISK ASSESSMENT

Comment 26: What is the criteria that the USEPA uses to consider something a health risk?

Response: EPA is required by regulations set forth in 40 CFR section 300.430 to use two different types of criteria, one type for carcinogenic compounds and a different type for systemic toxicants. For known or suspected carcinogens, acceptable exposure levels are generally concentration levels that represent an excess upper bound life-time cancer risk to an individual of between 1 in 10,000 and 1 in 1,000,000 using information on the relationship between dose and response. The 1 in 1,000,000 risk level is used as the point of departure for determining remediation goals for alternatives when ARARs are not available or are not sufficiently protective because of the presence of multiple contaminants at a site (which might have combined effects) or multiple pathways of exposure. For contaminants that are systemic toxicants, acceptable exposure levels are concentration levels to which the human population, including sensitive subgroups, such as children or the elderly, may be exposed without adverse effect during a lifetime or part of a lifetime, incorporating an adequate margin of safety.

Comment 27: Is 5 parts per billion the acceptable level for vinyl chloride and is that for drinking water?

Response: No, the acceptable level for vinyl chloride is 2 parts per billion and that is for groundwater. This level is the maximum level allowed by the Illinois Groundwater quality standards for Class I potable groundwater resources.

U.S. EPA ADMINISTRATIVE RECORD
WOODSTOCK MUNICIPAL LANDFILL
WOODSTOCK, ILLINOIS
UPDATE #2

AR

07/08/93

DOC#	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	06/30/93	Adamkus, V., U.S. EPA	Recipients	Record of Decision	202

APPENDIX III

DATA TABLES

MONITORING WELLS

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: IND MTL
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-GWB01-01 11/02/90		WK-GWB02-02 02/06/91		WK-GWF01-01 10/31/90		WK-GWF02-01 11/02/90		WK-GWF06-02 02/07/91	
Aluminum (UG/L)	200.	U/	67.	K/	200.	U/	200.	U/	50.	U/
Antimony (UG/L)	50.	U/	5.	UN/	50.	U/	50.	U/	5.	UNS/
Arsenic (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Barium (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Beryllium (UG/L)	0.2	U/	5.	U/	0.2	U/	0.2	U/	5.	U/
Cadmium (UG/L)	5.	U/	5.	U/	5.	/	5.	U/	5.	U/
Calcium (UG/L)	1000.	U/	1000.	U/	1000.	U/	1000.	U/	1000.	U/
Chromium, total (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Cobalt (UG/L)	50.	U/	10.	U/	50.	U/	50.	U/	10.	U/
Copper (UG/L)	14.	K/U	10.	U/	10.	U/	16.	K/U	10.	U/
Iron (UG/L)	38.	K/	74.	K/	20.	U/	20.	U/	20.	U/
Lead (UG/L)	3.	U/	3.	US/	3.	U/	3.	U/	3.	U/
Magnesium (UG/L)	1000.	U/	1000.	U/	1000.	U/	1000.	U/	1000.	U/
Manganese (UG/L)	10.	U/	15.	U/	10.	U/	10.	U/	15.	U/
Mercury (UG/L)	0.2	U/	0.2	U/	0.2	U/	0.2	U/	0.2	U/
Nickel (UG/L)	20.	U/	20.	U/	20.	U/	20.	U/	20.	U/
Potassium (UG/L)	100.	U/	100.	U/	100.	U/	100.	U/	110.	K/
Selenium (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	US/
Silver (UG/L)	10.	UN/R	10.	U/	10.	UN/R	10.	UN/R	10.	U/
Sodium (UG/L)	2000.	U/	1000.	UN/	2000.	U/	2000.	U/	1000.	UN/
Thallium (UG/L)-	3.	U/	3.	U/	3.	U/	3.	U/	3.	U/
Vanadium (UG/L)	2.	U/	50.	U/	2.	U/	2.	U/	50.	U/
Zinc (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Cyanide (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Alkalinity, Total (MG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chloride (MG/L)	1.	U/	1.	U/	1.	U/	1.	U/	1.	U*/UJ
Chemical Oxygen Demand (MG/L)			20.	U/					27.	/U
Nitrate+Nitrite Nitrogen (MG/L)	0.02	U/	0.07	/	0.02	U/	0.02	U/	0.04	/
Nitrogen, Ammonia (MG/L)	0.1	U/	0.1	U/	0.1	U/	0.1	U/	0.1	U/
Nitrogen, Total Kjeldahl (MG/L)	0.1	/U	0.1	UN/UJ	0.1	U/	0.29	/	0.1	UN/UJ
Phosphorus, Total (MG/L)	0.02	UN/	0.02	UN/UJ	0.02	UN/	0.02	UN/	0.02	UN/UJ
Sulfate (MG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Total Dissolved Solids (MG/L)	20.	U/	20.	U/	20.	U/	20.	U/	20.	U/

Note: (1) Results are reported with qualifiers (laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: IND MTL

Parameter	WK-GWFB10-02 04/02/91		WK-GWMW01D-01 10/31/90		WK-GWMW01D-02 02/06/91		WK-GWMW01S-01 10/31/90		WK-GWMW01S-02 02/06/91	
Aluminum (UG/L)	50.	U/	200.	U/	52.	K/U	200.	U/	50.	U/
Antimony (UG/L)	50.	U/	50.	U/	5.	UN/	50.	U/	5.	UN/
Arsenic (UG/L)	2.	U/	2.	U/	2.	U/	5.9	KS/	6.	K/
Barium (UG/L)	10.	U/	171.	K/	200.	/	218.	/	250.	/
Beryllium (UG/L)	5.	U/	0.2	U/	5.	U/	0.2	U/	5.	U/
Cadmium (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Calcium (UG/L)	1000.	U/	126000.	/	125000.	/	93500.	/	83700.	/
Chromium, total (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Cobalt (UG/L)	10.	U/	50.	U/	10.	U/	50.	U/	12.	K/U
Copper (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Iron (UG/L)	20.	U/	2370.	/	1180.	/	1340.	/	3160.	/
Lead (UG/L)	3.	U/	3.	U/	3.	U/	3.	U/	3.	U/
Magnesium (UG/L)	1000.	U/	56000.	/	58400.	/	77300.	/	77200.	/
Manganese (UG/L)	10.	U/	163.	/	174.	/	553.	/	827.	/
Mercury (UG/L)	0.2	U/	0.2	U/	0.2	U/	0.2	U/	0.2	U/
Nickel (UG/L)	20.	U/	20.	U/	20.	U/	77.	/	93.	/
Potassium (UG/L)	100.	U/	1800.	K/	2440.	K/	13200.	/	15000.	K/
Selenium (UG/L)	2.	U/	2.	U/	2.	US/	2.	U/	2.	U/
Silver (UG/L)	10.	U/	10.	UN/R	10.	U/	10.	UN/R	10.	U/
Sodium (UG/L)	2000.	U/	44000.	/	67300.	N/J	65000.	/	58900.	N/J
Thallium (UG/L)	3.	U/	3.	U/	3.	U/	3.	U/	3.	U/
Vanadium (UG/L)	50.	U/	2.	U/	50.	U/	2.	U/	50.	U/
Zinc (UG/L)	10.	U/	10.	U/	450.	/	10.	U/	49.	/
Cyanide (UG/L)			10.	U/	10.	U/	10.	U/	10.	U/
Alkalinity, Total (MG/L)	5.	U/	336.	/	359.	/	668.	/	622.	/
Chloride (MG/L)	1.	U/	142.	/	198.	/	36.	/	29.	/
Chemical Oxygen Demand (MG/L)					20.	U/			52.	/U
Nitrate+Nitrite Nitrogen (MG/L)	0.02	U/	0.02	U/	0.02	U/	0.02	U/	0.02	U/
Nitrogen, Ammonia (MG/L)	0.14	N/J	0.32	/	0.52	/	5.62	/	8.65	/
Nitrogen, Total Kjeldahl (MG/L)	0.1	U/	0.19	/U	1.45	N/J	5.61	/	8.34	N/J
Phosphorus, Total (MG/L)	0.02	U/	0.12	N/	1.38	N/J	1.09	N/J	1.08	N/J
Sulfate (MG/L)	5.	U/	97.	/	116.	/	21.	/	27.	/
Total Dissolved Solids (MG/L)	24.	/	696.	/	794.	/	756.	/	704.	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: IND MTL

Parameter	WK-GWMW02D-01 10/31/90		WK-GWMW02D-02 02/06/91		WK-GWMW02S-01 10/31/90		WK-GWMW02S-02 02/06/91		WK-GWMW02S-91 10/31/90	
Aluminum (UG/L)	200.	U/	50.	U/	200.	/U	50.	U/	200.	U/
Antimony (UG/L)	50.	U/	5.	UN/	50.	U/	5.	UN/	50.	U/
Arsenic (UG/L)	2.	U/	2.	U/	2.4	K/	3.8	KS/	2.7	K/
Barium (UG/L)	138.	K/	139.	K/	308.	/	247.	/	344.	/
Beryllium (UG/L)	0.2	U/	5.	U/	0.2	U/	5.	U/	0.2	U/
Cadmium (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Calcium (UG/L)	97200.	/	89200.	/	154000.	/	129000.	/	171000.	/
Chromium, total (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Cobalt (UG/L)	50.	U/	10.	U/	50.	U/	10.	U/	50.	U/
Copper (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Iron (UG/L)	1180.	/	1250.	/	1070.	/	1290.	/	669.	/
Lead (UG/L)	3.	U/	3.	U/	3.	U/	3.	U/	3.	U/
Magnesium (UG/L)	54600.	/	54400.	/	77400.	/	69000.	/	85700.	/
Manganese (UG/L)	75.	/	87.	/	900.	/	1090.	/	909.	/
Mercury (UG/L)	0.2	U/	0.2	U/	0.2	U/	0.2	U/	0.2	U/
Nickel (UG/L)	20.	U/	20.	U/	20.	U/	20.	U/	20.	U/
Potassium (UG/L)	1360.	K/	1300.	K/	8360.	/	6290.	/	9340.	/
Selenium (UG/L)	2.	U/	2.	U/	2.	US/	2.	U/	2.	US/
Silver (UG/L)	10.	UN/R	10.	U/	10.	UN/R	10.	U/	10.	UN/R
Sodium (UG/L)	7760.	/	9600.	J/J	138000.	/	125000.	N/J	165000.	/
Thallium (UG/L)	3.	U/	3.	U/	3.	U/	3.	U/	3.	U/
Vanadium (UG/L)	2.	U/	50.	U/	5.2	K/	50.	U/	5.6	K/
Zinc (UG/L)	10.	U/	12.	K/	10.	U/	222.	/	10.	U/
Cyanide (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Alkalinity, Total (MG/L)	413.	/	416.	/	606.	/	644.	/	657.	/
Chloride (MG/L)	4.	/	4.	/	295.	/	239.	/	328.	/
Chemical Oxygen Demand (MG/L)			20.	U/			42.	/U		
Nitrate+Nitrite Nitrogen (MG/L)	0.02	U/	0.02	U/	0.02	U/	0.02	U/	0.02	U/
Nitrogen, Ammonia (MG/L)	0.61	/	0.58	/	3.02	/	3.06	/	2.53	/
Nitrogen, Total Kjeldahl (MG/L)	0.68	/	0.62	N/J	3.51	/	6.12	N/J	5.	/
Phosphorus, Total (MG/L)	0.04	N/	0.15	N/J	0.9	N/J	1.75	N/J	1.79	N/J
Sulfate (MG/L)	83.	/	84.	/	17.	/	21.	/	15.	/
Total Dissolved Solids (MG/L)	512.	/	498.	/	1140.	/	1010.	/	1140.	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: IND MTL

Parameter	WK-GWMW03D-01 11/01/90		WK-GWMW03D-02 02/06/91		WK-GWMW03S-01 11/01/90		WK-GWMW03S-02 02/06/91		WK-GWMW04D-01 11/01/90	
Aluminum (UG/L)	200.	U/	57.	K/U	200.	U/	50.	U/	200.	U/
Antimony (UG/L)	50.	U/	5.	UN/	50.	U/	5.	UN/	50.	U/
Arsenic (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Barium (UG/L)	137.	K/	138.	K/	110.	K/	83.	K/	254.	/
Beryllium (UG/L)	0.2	U/	5.	U/	0.2	U/	5.	U/	0.2	U/
Cadmium (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Calcium (UG/L)	131000.	/	124000.	/	119000.	/	106000.	/	171000.	/
Chromium, total (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Cobalt (UG/L)	50.	U/	10.	U/	50.	U/	10.	U/	50.	U/
Copper (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Iron (UG/L)	1040.	/	1740.	/	20.	U/	20.	U/	1870.	/
Lead (UG/L)	3.	US/	3.	U/	3.	U/	3.	U/	3.	U/
Magnesium (UG/L)	63300.	/	64800.	/	49200.	/	47400.	/	78300.	/
Manganese (UG/L)	48.	/	54.	/	451.	/	310.	/	529.	/
Mercury (UG/L)	0.2	U/	0.2	U/	0.2	U/	0.2	U/	0.2	U/
Nickel (UG/L)	20.	K/	20.	U/	27.	K/	20.	U/	20.	U/
Potassium (UG/L)	1240.	K/	1150.	K/	860.	K/	510.	K/U	2500.	K/
Selenium (UG/L)	2.	U/	2.	US/	2.	U/	2.	U/	2.	U/
Silver (UG/L)	10.	UN/R	10.	U/	10.	UN/R	10.	U/	10.	UN/R
Sodium (UG/L)	7790.	/	8400.	N/J	18200.	/	17600.	N/J	57700.	/
Thallium (UG/L)	3.	U/	3.	U/	3.	U/	3.	U/	3.	U/
Vanadium (UG/L)	2.	U/	50.	U/	2.	U/	50.	U/	2.	U/
Zinc (UG/L)	10.	U/	15.	K/	10.	U/	52.	/	10.	U/
Cyanide (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Alkalinity, Total (MG/L)	438.	/	494.	/	428.	/	417.	/	650.	/
Chloride (MG/L)	4.	/	8.	*/J	15.	/	25.	*/J	119.	/
Chemical Oxygen Demand (MG/L)			20.	U/			20.	U/		
Nitrate+Nitrite Nitrogen (MG/L)	0.02	U/	0.02	U/	0.02	U/	0.02	U/	0.04	U/
Nitrogen, Ammonia (MG/L)	0.55	/	0.43	/	0.24	/	0.31	/	3.6	/
Nitrogen, Total Kjeldahl (MG/L)	0.96	/U	0.57	N/J	10.4	/	5.97	N/J	7.08	/
Phosphorus, Total (MG/L)	0.74	N/	0.26	N/J	3.23	N/	2.55	N/J	2.5	N/
Sulfate (MG/L)	180.	/	170.	/	92.	/	90.	/	102.	/
Total Dissolved Solids (MG/L)	672.	/	652.	/	562.	/	518.	/	978.	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: IND MTL

Parameter	WK-GWMW03D-01 11/01/90		WK-GWMW03D-02 02/06/91		WK-GWMW03S-01 11/01/90		WK-GWMW03S-02 02/06/91		WK-GWMW04D-01 11/01/90	
Aluminum (UG/L)	200.	U/	57.	K/U	200.	U/	50.	U/	200.	U/
Antimony (UG/L)	50.	U/	5.	UN/	50.	U/	5.	UN/	50.	U/
Arsenic (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Barium (UG/L)	137.	K/	138.	K/	110.	K/	83.	K/	254.	/
Beryllium (UG/L)	0.2	U/	5.	U/	0.2	U/	5.	U/	0.2	U/
Cadmium (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Calcium (UG/L)	131000.	/	124000.	/	119000.	/	106000.	/	171000.	/
Chromium, total (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Cobalt (UG/L)	50.	U/	10.	U/	50.	U/	10.	U/	50.	U/
Copper (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Iron (UG/L)	1040.	/	1740.	/	20.	U/	20.	U/	1870.	/
Lead (UG/L)	3.	US/	3.	U/	3.	U/	3.	U/	3.	U/
Magnesium (UG/L)	63300.	/	64800.	/	49200.	/	47400.	/	78300.	/
Manganese (UG/L)	48.	/	54.	/	451.	/	310.	/	529.	/
Mercury (UG/L)	0.2	U/	0.2	U/	0.2	U/	0.2	U/	0.2	U/
Nickel (UG/L)	20.	K/	20.	U/	27.	K/	20.	U/	20.	U/
Potassium (UG/L)	1240.	K/	1150.	K/	860.	K/	510.	K/U	2500.	K/
Selenium (UG/L)	2.	U/	2.	US/	2.	U/	2.	U/	2.	U/
Silver (UG/L)	10.	UN/R	10.	U/	10.	UN/R	10.	U/	10.	UN/R
Sodium (UG/L)	7790.	/	8400.	N/J	18200.	/	17600.	N/J	57700.	/
Thallium (UG/L)	3.	U/	3.	U/	3.	U/	3.	U/	3.	U/
Vanadium (UG/L)	2.	U/	50.	U/	2.	U/	50.	U/	2.	U/
Zinc (UG/L)	10.	U/	15.	K/	10.	U/	52.	/	10.	U/
Cyanide (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Alkalinity, Total (MG/L)	438.	/	494.	/	428.	/	417.	/	650.	/
Chloride (MG/L)	4.	/	8.	*/J	15.	/	25.	*/J	119.	/
Chemical Oxygen Demand (MG/L)			20.	U/			20.	U/		
Nitrate+Nitrite Nitrogen (MG/L)	0.02	U/	0.02	U/	0.02	U/	0.02	U/	0.04	U/
Nitrogen, Ammonia (MG/L)	0.55	/	0.43	/	0.24	/	0.31	/	3.6	/
Nitrogen, Total Kjeldahl (MG/L)	0.96	/U	0.57	N/J	10.4	/	5.97	N/J	7.08	/
Phosphorus, Total (MG/L)	0.74	N/	0.26	N/J	3.23	N/	2.55	N/J	2.5	N/
Sulfate (MG/L)	180.	/	170.	/	92.	/	90.	/	102.	/
Total Dissolved Solids (MG/L)	672.	/	652.	/	562.	/	518.	/	978.	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: IND MTL

Parameter	WK-GWMW04D-02 02/07/91		WK-GWMW04D-92 02/07/91		WK-GWMW04S-01 11/01/90		WK-GWMW04S-02 02/07/91		WK-GWMW05D-01 11/01/90	
Aluminum (UG/L)	50.	U/	50.	U/	200.	U/	59.	K/U	200.	U/
Antimony (UG/L)	5.	UN/	5.	UN/	50.	U/	5.	UN/	50.	U/
Arsenic (UG/L)	2.	U/	2.	U/	6.2	K/	9.6	KS/	4.2	K/
Barium (UG/L)	210.	/	204.	/	171.	K/	150.	K/	219.	/
Beryllium (UG/L)	5.	U/	5.	U/	0.2	U/	5.	U/	0.2	U/
Cadmium (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Calcium (UG/L)	161000.	/	161000.	/	132000.	/	123000.	/	111000.	/
Chromium, total (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Cobalt (UG/L)	10.	U/	10.	U/	50.	U/	10.	U/	50.	U/
Copper (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	13.	K/U
Iron (UG/L)	2770.	/	2570.	/	12600.	/	12300.	/	492.	/
Lead (UG/L)	3.	U/	3.	U/	3.	U/	3.	U/	3.	U/
Magnesium (UG/L)	79000.	/	79100.	/	31100.	/	31700.	/	62700.	/
Manganese (UG/L)	422.	/	422.	/	598.	/	615.	/	85.	/
Mercury (UG/L)	0.2	U/	0.2	U/	0.2	U/	0.2	U/	0.2	U/
Nickel (UG/L)	20.	U/	20.	U/	20.	U/	20.	U/	20.	U/
Potassium (UG/L)	2180.	K/	2140.	K/	3630.	K/	3570.	K/	2360.	K/
Selenium (UG/L)	2.	US/	2.	US/	2.	U/	2.	U/	2.	U/
Silver (UG/L)	10.	U/	10.	U/	10.	UN/R	10.	U/	10.	UN/R
Sodium (UG/L)	62800.	N/J	62200.	N/J	77800.	/	88900.	N/J	26000.	/
Thallium (UG/L)	3.	U/	3.	U/	3.	U/	3.	U/	3.	U/
Vanadium (UG/L)	50.	U/	50.	U/	2.	U/	50.	U/	2.	U/
Zinc (UG/L)	14.	K/	10.	U/	10.	U/	326.	/	10.	U/
Cyanide (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Alkalinity, Total (MG/L)	712.	/	614.	/	619.	/	535.	/	485.	/
Chloride (MG/L)	140.	*/J	138.	*/J	49.	/	49.	*/J	31.	/
Chemical Oxygen Demand (MG/L)	45.	/U	42.	/U			117.	/U		
Nitrate+Nitrite Nitrogen (MG/L)	0.02	U/	0.02	U/	0.02	U/	0.08	/U	0.02	U/
Nitrogen, Ammonia (MG/L)	3.1	/	4.44	/	2.9	/	2.39	/	1.82	/
Nitrogen, Total Kjeldahl (MG/L)	7.02	N/J	7.	N/J	15.1	/	11.7	N/J	1.75	/
Phosphorus, Total (MG/L)	1.65	N/J	1.93	N/J	0.48	N/	0.39	N/J	0.05	N/
Sulfate (MG/L)	108.	/	106.	/	36.	/	64.	/	77.	/
Total Dissolved Solids (MG/L)	968.	/	972.	/	812.	/	772.	/	624.	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: IND MTL

Parameter	WK-GWMW05D-02 02/06/91		WK-GWMW05D-91 11/01/90		WK-GWMW05S-01 11/01/90		WK-GWMW05S-02 02/05/91		WK-GWMW06D-01 11/02/90	
Aluminum (UG/L)	50.	U/	200.	U/	200.	U/	50.	U/	200.	U/
Antimony (UG/L)	5.	UN/	50.	U/	50.	U/	5.	UN/	50.	U/
Arsenic (UG/L)	2.9	K/	4.4	K/	4.3	K/	6.1	KS/	2.	U/
Barium (UG/L)	235.	/	229.	/	344.	/	311.	/	333.	/
Beryllium (UG/L)	5.	U/	0.2	U/	0.2	U/	5.	U/	0.2	U/
Cadmium (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Calcium (UG/L)	103000.	/	110000.	/	170000.	/	167000.	/	153000.	/
Chromium, total (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Cobalt (UG/L)	10.	U/	50.	U/	50.	U/	10.	U/	50.	U/
Copper (UG/L)	10.	U/	10.	K/U	10.	U/	10.	U/	10.	U/
Iron (UG/L)	373.	/	434.	/	11800.	/	12800.	/	8230.	/
Lead (UG/L)	3.	U/	3.	U/	3.	U/	3.	U/	3.	US/
Magnesium (UG/L)	60900.	/	62400.	/	86600.	/	81900.	/	57700.	/
Manganese (UG/L)	67.	/	84.	/	258.	/	202.	/	403.	/
Mercury (UG/L)	0.2	U/	0.2	U/	0.2	U/	0.2	U/	0.2	U/
Nickel (UG/L)	20.	U/	20.	U/	20.	U/	20.	U/	20.	U/
Potassium (UG/L)	3130.	K/	2090.	K/	36800.	/	31800.	K/	1820.	K/
Selenium (UG/L)	2.	U/	2.	U/	2.	U/	2.	US/	2.	US/
Silver (UG/L)	10.	U/	10.	UN/R	10.	UN/R	10.	U/	10.	UN/R
Sodium (UG/L)	32300.	N/J	30100.	/	70300.	/	60200.	N/J	28100.	/
Thallium (UG/L)	3.	U/	3.	U/	3.	U/	3.	U/	3.	U/
Vanadium (UG/L)	50.	U/	2.	U/	3.7	K/	50.	U/	2.	U/
Zinc (UG/L)	564.	/	10.	U/	10.	K/	64.	/	10.	U/
Cyanide (UG/L)	13.	/	10.	U/	10.	U/	10.	U/	10.	U/
Alkalinity, Total (MG/L)	496.	/	484.	/	973.	/	902.	/	293.	/
Chloride (MG/L)	28.	/	31.	/	67.	/	50.	/	220.	/
Chemical Oxygen Demand (MG/L)	20.	U/					45.	/U		
Nitrate+Nitrite Nitrogen (MG/L)	0.48	/	0.02	U/	0.02	U/	0.02	U/	0.02	U/
Nitrogen, Ammonia (MG/L)	1.69	/	1.78	/	17.6	/	13.8	/	1.98	/
Nitrogen, Total Kjeldahl (MG/L)	3.53	N/J	1.76	/	18.2	/	14.6	N/J	2.12	/
Phosphorus, Total (MG/L)	0.17	N/J	0.02	UN/	1.65	N/	0.62	N/J	0.07	N/
Sulfate (MG/L)	83.	/	78.	/	25.	/	43.	/	118.	/
Total Dissolved Solids (MG/L)	1820.	/	624.	/	1080.	/	988.	/	774.	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: IND MTL

Parameter	WK-GWMW06D-02 02/05/91		WK-GWMW06S-01 11/02/90		WK-GWMW06S-02 02/05/91		WK-GWMW07-01 02/06/91		WK-GWMW07-02 04/02/91	
Aluminum (UG/L)	50.	U/	200.	U/	50.	U/	57.	K/U	51.5	K/
Antimony (UG/L)	5.	UN/	50.	U/	5.	UN/	5.	UN/	50.	U/
Arsenic (UG/L)	2.	US/	2.	US/	2.	US/	11.	/	19.2	/
Barium (UG/L)	337.	/	174.	K/	213.	/	521.	/	509.	/
Beryllium (UG/L)	5.	U/	0.2	U/	5.	U/	5.	U/	5.	U/
Cadmium (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Calcium (UG/L)	160000.	/	75800.	/	95800.	/	214000.	/	223000.	/
Chromium, total (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Cobalt (UG/L)	10.	U/	50.	U/	10.	U/	10.	U/	10.	U/
Copper (UG/L)	10.	U/	14.	K/U	10.	U/	10.	U/	10.	U/
Iron (UG/L)	5330.	/	20.	U/	32.	K/U	11800.	/	17400.	/
Lead (UG/L)	3.	U/	3.	US/	3.	U/	3.	U/	3.	US/
Magnesium (UG/L)	65500.	/	24700.	/	32400.	/	111000.	/	116000.	/
Manganese (UG/L)	391.	/	92.	/	206.	/	507.	/	597.	/
Mercury (UG/L)	0.2	U/	0.2	U/	0.2	U/	0.2	U/	0.2	U/
Nickel (UG/L)	20.	U/	20.	U/	21.	K/	47.	/	30.5	K/
Potassium (UG/L)	3050.	K/	2560.	K/	3170.	K/	8640.	/	8920.	/
Selenium (UG/L)	2.	U/	2.	U/	2.	U/	2.	US/	2.	US/
Silver (UG/L)	10.	U/	10.	UN/R	10.	U/	10.	U/	10.	U/
Sodium (UG/L)	35500.	N/J	183000.	/	175000.	N/	93700.	N/J	77500.	/
Thallium (UG/L)	3.	U/	3.	U/	3.	U/	3.	U/	3.	US/
Vanadium (UG/L)	50.	U/	2.	US/	50.	U/	50.	U/	50.	U/
Zinc (UG/L)	1750.	/	10.	U/	78.	/	37.	/	65.5	/
Cyanide (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/		
Alkalinity, Total (MG/L)	303.	/	434.	/	414.	/	769.	/	985.	/
Chloride (MG/L)	228.	/	150.	/	149.	/	118.	/	109.	/
Chemical Oxygen Demand (MG/L)	20.	U/			20.	U/	60.	/U		
Nitrate+Nitrite Nitrogen (MG/L)	0.21	/U	2.87	/	5.09	/	0.02	U/	0.02	U/
Nitrogen, Ammonia (MG/L)	2.11	/	0.1	U/	0.15	/	6.47	/	8.96	N/J
Nitrogen, Total Kjeldahl (MG/L)	3.5	N/J	3.02	/	1.74	N/J	8.6	N/J	9.03	/
Phosphorus, Total (MG/L)	0.8	N/J	3.79	N/	0.82	N/J	0.77	N/J	1.38	/
Sulfate (MG/L)	111.	/	80.	/	80.	/	114.	/	102.	/
Total Dissolved Solids (MG/L)	764.	/	816.	/	828.	/	1300.	/	1340.	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: IND MIL

Parameter	WK-GWMW08-01 02/11/91		WK-GWMW08-02 04/02/91		WK-GWMW09-01 02/11/91		WK-GWMW09-02 04/01/91		WK-GWMW09-91 02/11/91	
Aluminum (UG/L)	50.	U/	50.	U/	50.	U/	68.	K/	50.	U/
Antimony (UG/L)	5.1	KN/J	50.	U/	5.	UN/	50.	U/	6.8	KN/J
Arsenic (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Barium (UG/L)	220.	/	221.	/	348.	/	299.	/	347.	/
Beryllium (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Cadmium (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Calcium (UG/L)	185000.	/	188000.	/	114000.	/	121000.	/	114000.	/
Chromium, total (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Cobalt (UG/L)	10.	U/	10.	U/	10.	K/U	10.	U/	10.	U/
Copper (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Iron (UG/L)	5550.	/	5040.	/	5140.	/	3130.	/	5090.	/
Lead (UG/L)	3.	U/	3.	U/	3.	U/	3.	U/	3.	U/
Magnesium (UG/L)	102000.	/	104000.	/	47900.	/	48900.	/	47600.	/
Manganese (UG/L)	92.	/	92.	/	69.	/	77.5	/	68.	/
Mercury (UG/L)	0.2	U/	0.2	U/	0.2	U/	0.2	U/	0.2	U/
Nickel (UG/L)	33.	K/	25.	K/	20.	U/	20.	U/	20.	U/
Potassium (UG/L)	2720.	K/	2350.	K/	2370.	K/	2740.	K/	2390.	K/
Selenium (UG/L)	2.	U/	2.	US/	2.	U/	2.	U/	2.	U/
Silver (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Sodium (UG/L)	70300.	N/J	67800.	/	84700.	N/J	84600.	/	84200.	N/J
Thallium (UG/L)	3.	U/	3.	US/	3.	U/	3.	US/	3.	U/
Vanadium (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
Zinc (UG/L)	37.	/	16.	K/	25.	/	41.5	/	30.	/
Cyanide (UG/L)	10.	U/			10.	U/			10.	U/
Alkalinity, Total (MG/L)	862.	/	868.	/	588.	/	565.	/	570.	/
Chloride (MG/L)	166.	*/J	151.	/	117.	*/J	119.	/	118.	*/J
Chemical Oxygen Demand (MG/L)	45.	/U			20.	U/			20.	U/
Nitrate+Nitrite Nitrogen (MG/L)	0.02	U/	0.02	U/	0.02	/U	0.02	U/	0.03	/U
Nitrogen, Ammonia (MG/L)	1.04	/	1.1	N/J	5.21	/	3.86	N/J	4.23	/
Nitrogen, Total Kjeldahl (MG/L)	1.95	N/J	3.74	/	7.73	N/J	5.54	/	7.55	N/J
Phosphorus, Total (MG/L)	0.39	N/J	1.98	/	0.31	N/J	0.65	/	0.29	N/J
Sulfate (MG/L)	34.	/	35.	/	32.	/	38.	/	31.	/
Total Dissolved Solids (MG/L)	1120.	/	1080.	/	740.	/	776.	/	740.	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: IND MTL

Parameter	WK-GWMW09-92 04/01/91		WK-GWMW10-01 02/07/91		WK-GWMW10-02 04/01/91	
Aluminum (UG/L)	50.	K/	81.	K/U	72.	K/
Antimony (UG/L)	50.	U/	5.	UN/	50.	U/
Arsenic (UG/L)	2.	U/	6.3	K/	6.1	K/
Barium (UG/L)	312.	/	192.	K/	166.	K/
Beryllium (UG/L)	5.	U/	5.	U/	5.	U/
Cadmium (UG/L)	5.	U/	5.	U/	5.	U/
Calcium (UG/L)	118000.	/	192000.	/	165000.	/
Chromium, total (UG/L)	10.	U/	10.	U/	10.	U/
Cobalt (UG/L)	10.	U/	10.	U/	10.	U/
Copper (UG/L)	10.	U/	10.	U/	10.	U/
Iron (UG/L)	4790.	/	19400.	/	13400.	/
Lead (UG/L)	3.	U/	3.	US/	3.	U/
Magnesium (UG/L)	49300.	/	53200.	/	46300.	/
Manganese (UG/L)	69.5	/	708.	/	658.	/
Mercury (UG/L)	0.2	U/	0.2	U/	0.2	U/
Nickel (UG/L)	20.	U/	20.	U/	20.	U/
Potassium (UG/L)	2340.	K/	1260.	K/	1470.	K/
Selenium (UG/L)	2.	U/	2.	U/	2.	U/
Silver (UG/L)	10.	U/	10.	U/	10.	U/
Sodium (UG/L)	81700.	/	19100.	N/	20000.	/
Thallium (UG/L)	3.	U/	3.	U/	3.	U/
Vanadium (UG/L)	50.	U/	50.	U/	50.	U/
Zinc (UG/L)	10.	K/	140.	/	38.5	/
Cyanide (UG/L)			10.	U/		
Alkalinity, Total (MG/L)	556.	/	899.	/	606.	/
Chloride (MG/L)	113.	/	32.	*/J	24.	/
Chemical Oxygen Demand (MG/L)			157.	/		
Nitrate+Nitrite Nitrogen (MG/L)	0.02	U/	0.02	U/	0.04	U/
Nitrogen, Ammonia (MG/L)	3.95	N/J	3.28	/	3.67	N/J
Nitrogen, Total Kjeldahl (MG/L)	6.09	/	7.24	N/J	9.5	/
Phosphorus, Total (MG/L)	1.18	/	0.51	N/J	0.96	/
Sulfate (MG/L)	31.	/	51.	/	46.	/
Total Dissolved Solids (MG/L)	774.	/	916.	/	794.	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: VOC
Generated by: CAW
Date Issued: 04-JUN-91

Parameter	WK-GWB01-01 11/02/90		WK-GWB02-02 02/06/91		WK-GWF01-01 10/31/90		WK-GWF01-01 12/12/90		WK-GWF02-01 11/02/90	
Chloromethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromomethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Vinyl chloride (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Chloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Methylene chloride (UG/L)	7.	/	5.	U/	5.	U/	5.	U/	2.	J/
Acetone (UG/L)	11.	U/	10.	U/	10.	U/	14.	B/UJ	10.	U/
Carbon disulfide (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethene (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chloroform (UG/L)	2.	J/	1.	J/	2.	J/	5.	U/	1.	J/
1,2-Dichloroethane (UG/L)	2.	J/	5.	U/	5.	U/	5.	U/	5.	U/
2-Butanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,1,1-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Carbon tetrachloride (UG/L)	5.	U/	5.	U/	1.	J/	5.	U/	5.	U/
Vinyl acetate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromodichloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloropropane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
cis-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Trichloroethene (UG/L)	5.	U/	5.	U/	18.	/	5.	U/	5.	U/
Dibromochloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Benzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
trans-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Bromoform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
4-Methyl-2-pentanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Hexanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Tetrachloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Toluene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chlorobenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Ethylbenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Xylenes (total) (UG/L)	5.	U/	5.	U/	2.	J/	5.	U/	5.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: VOC

Parameter	WK-GWFB06-02 02/07/91		WK-GWFB08-02 02/11/91		WK-GWFB10-02 04/02/91		WK-GWMW01D-01 12/12/90		WK-GWMW01D-02 02/06/91	
Chloromethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromomethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Vinyl chloride (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Chloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Methylene chloride (UG/L)	7.	U/	6.	U/	28.	B/U	5.	U/	7.	U/
Acetone (UG/L)	10.	U/	9.	J/	10.	U/	10.	B/U	10.	U/
Carbon disulfide (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethene (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chloroform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
2-Butanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,1,1-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Carbon tetrachloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Vinyl acetate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromodichloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloropropane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
cis-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Trichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Dibromochloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Benzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
trans-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Bromoform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
4-Methyl-2-pentanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Hexanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Tetrachloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Toluene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chlorobenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Ethylbenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Xylenes (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: VOC

Parameter	WK-GWMW01S-01 10/31/90		WK-GWMW01S-02 02/06/91		WK-GWMW02D-01 12/12/90		WK-GWMW02D-02 02/06/91		WK-GWMW02S-01 10/31/90	
Chloromethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromomethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Vinyl chloride (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Chloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Methylene chloride (UG/L)	5.	U/	9.	U/	5.	U/	5.	U/	5.	U/
Acetone (UG/L)	10.	U/	10.	U/	10.	B/U	10.	U/	10.	U/
Carbon disulfide (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethene (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chloroform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
2-Butanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,1,1-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Carbon tetrachloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Vinyl acetate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromodichloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloropropane (UG/L)	5.	U/	.	U/	5.	U/	5.	U/	5.	U/
cis-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Trichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Dibromochloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Benzene (UG/L)	2.	J/	5.	U/	5.	U/	5.	U/	5.	U/
trans-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Bromoform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
4-Methyl-2-pentanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Hexanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Tetrachloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Toluene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chlorobenzene (UG/L)	2.	J/	5.	U/	5.	U/	5.	U/	5.	U/
Ethylbenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Xylenes (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: VOC

Parameter	WK-GWMW02S-02 02/06/91		WK-GWMW02S-91 10/31/90		WK-GWMW03D-01 11/01/90		WK-GWMW03D-02 02/06/91		WK-GWMW03S-01 11/01/90	
Chloromethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromomethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Vinyl chloride (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Chloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Methylene chloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Acetone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Carbon disulfide (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethene (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chloroform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
2-Butanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,1,1-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Carbon tetrachloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Vinyl acetate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromodichloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloropropane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
cis-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Trichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Dibromochloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Benzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
trans-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Bromoform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
4-Methyl-2-pentanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Hexanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Tetrachloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Toluene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chlorobenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Ethylbenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Xylenes (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: VOC

Parameter	WK-GWMW03S-02 02/06/91		WK-GWMW04D-01 11/01/90		WK-GWMW04D-02 02/07/91		WK-GWMW04D-92 02/07/91		WK-GWMW04S-01 11/01/90	
Chloromethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromomethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Vinyl chloride (UG/L)	10.	U/	16.	/	21.	/	14.	/	10.	U/
Chloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Methylene chloride (UG/L)	5.	U/	5.	U/	6.	U/	5.	U/	5.	U/
Acetone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Carbon disulfide (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethene (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chloroform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
2-Butanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,1,1-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Carbon tetrachloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Vinyl acetate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromodichloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloropropane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
cis-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Trichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Dibromochloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Benzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
trans-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Bromoform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
4-Methyl-2-pentanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Hexanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Tetrachloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Toluene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chlorobenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Ethylbenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Xylenes (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: VOC

Parameter	WK-GWMW04S-02 02/07/91		WK-GWMW05D-01 12/12/90		WK-GWMW05D-02 02/06/91		WK-GWMW05D-91 12/12/90		WK-GWMW05S-01 11/01/90	
Chloromethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromomethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Vinyl chloride (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Chloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Methylene chloride (UG/L)	11.	U/	5.	U/	5.	U/	6.	B/U	5.	U/
Acetone (UG/L)	10.	U/	10.	U/	7.	J/U	10.	U/	10.	U/
Carbon disulfide (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethene (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chloroform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
2-Butanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,1,1-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Carbon tetrachloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Vinyl acetate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromodichloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloropropane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
cis-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Trichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Dibromochloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Benzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	4.	J/
trans-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Bromoform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
4-Methyl-2-pentanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Hexanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Tetrachloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Toluene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chlorobenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Ethylbenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Xylenes (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

c: GW Type: VOC

eter	WK-GWMW05S-02 02/05/91		WK-GWMW06D-01 12/12/90		WK-GWMW06D-02 02/05/91		WK-GWMW06S-01 11/02/90		WK-GWMW06S-02 02/05/91	
romethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
omethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
l chloride (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
roethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	5.	U/
ylene chloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/UJ	11.	/U
tone (UG/L)	10.	U/	10.	U/	9.	J/U	10.	U/	5.	U/
bon disulfide (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1-Dichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
2-Dichloroethene (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
loroform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
2-Dichloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Butanone (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
,1,1-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
arbon tetrachloride (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
inyl acetate (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
romodichloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloropropane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
cis-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Trichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Dibromochloromethane (UG/L)	5.	U/	5.	U/	2.	J/	5.	U/	5.	U/
1,1,2-Trichloroethane (UG/L)	3.	J/	5.	U/	5.	U/	5.	U/	10.	U/
Benzene (UG/L)	5.	U/	5.	U/	5.	U/	10.	U/	10.	U/
trans-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	10.	U/	10.	U/	5.	U/
Bromoform (UG/L)	10.	U/	10.	U/	10.	U/	5.	U/	5.	U/
4-Methyl-2-pentanone (UG/L)	10.	U/	10.	U/	5.	U/	5.	U/	5.	U/
2-Hexanone (UG/L)	5.	U/	5.	U/	5.	U/	3.	J/	5.	U/
Tetrachloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Toluene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chlorobenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Ethylbenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Xylenes (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/

...ifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: VOC

Parameter	WK-GWMW07-01 02/06/91		WK-GWMW07-02 04/02/91		WK-GWMW08-01 02/11/91		WK-GWMW08-02 04/02/91		WK-GWMW09-01 02/11/91	
Chloromethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromomethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Vinyl chloride (UG/L)	10.	U/	10.	U/	21.	/	20.	/	10.	U/
Chloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Methylene chloride (UG/L)	5.	U/	18.	B/U	6.	U/	35.	/U	5.	U/
Acetone (UG/L)	5.	J/	10.	U/	10.	U/	10.	U/	10.	U/
Carbon disulfide (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethene (total) (UG/L)	5.	U/	5.	U/	2.	J/	3.	J/	5.	U/
Chloroform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
2-Butanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,1,1-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Carbon tetrachloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Vinyl acetate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromodichloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloropropane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
cis-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Trichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Dibromochloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Benzene (UG/L)	4.	J/	4.	J/	5.	U/	5.	U/	5.	U/
trans-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Bromoform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
4-Methyl-2-pentanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Hexanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Tetrachloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Toluene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chlorobenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Ethylbenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Xylenes (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

U Type: VOC

	WK-GWMW09-02 04/01/91		WK-GWMW09-91 02/11/91		WK-GWMW09-92 04/01/91		WK-GWMW10-01 02/07/91		WK-GWMW10-02 04/01/91	
r										
thane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
hane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
loride (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
thane (UG/L)	17.	B/U	10.	U/	10.	U/	10.	U/	12.	B/U
ne chloride (UG/L)	10.	U/	5.	U/	17.	B/U	5.	U/	10.	U/
(UG/L)	5.	U/	5.	U/	10.	U/	10.	/U	5.	U/
disulfide (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
chloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
chloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
ichloroethene (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
oform (UG/L)	5.	U/	10.	U/	10.	U/	10.	U/	10.	U/
ichloroethane (UG/L)	10.	U/	5.	U/	5.	U/	5.	U/	5.	U/
anone (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	10.	U/
-Trichloroethane (UG/L)	5.	U/	10.	U/	10.	U/	10.	U/	5.	U/
on tetrachloride (UG/L)	10.	U/	5.	U/	5.	U/	5.	U/	5.	U/
l acetate (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
odichloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Dichloropropane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
chloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
romochloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	10.	U/
,2-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	10.	U/	10.	U/
nzene (UG/L)	5.	U/	5.	U/	10.	U/	10.	U/	5.	U/
ans-1,3-Dichloropropene (UG/L)	5.	U/	10.	U/	10.	U/	5.	U/	5.	U/
omoform (UG/L)	10.	U/	10.	U/	5.	U/	5.	U/	5.	U/
Methyl-2-pentanone (UG/L)	10.	U/	5.	U/	5.	U/	5.	U/	5.	U/
-Hexanone (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
etrachloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
oluene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chlorobenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Ethylbenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Xylenes (total) (UG/L)										

...ifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: VOC

Parameter	WK-GWTB01-01 10/31/90		WK-GWTB01-01 12/12/90		WK-GWTB02-01 10/31/90		WK-GWTB03-01 11/02/90		WK-GWTB04-02 02/05/91	
Chloromethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromomethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Vinyl chloride (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Chloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Methylene chloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Acetone (UG/L)	10.	U/	12.	B/UJ	10.	U/	10.	U/	12.	B/U
Carbon disulfide (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethene (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chloroform (UG/L)	2.	J/	1.	J/	2.	J/	2.	J/	1.	J/
1,2-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
2-Butanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,1,1-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Carbon tetrachloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Vinyl acetate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromodichloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloropropane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
cis-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Trichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Dibromochloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Benzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
trans-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Bromoform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
4-Methyl-2-pentanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Hexanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Tetrachloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Toluene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chlorobenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Ethylbenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Xylenes (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: VOC

Parameter	WK-GWTB05-02 02/06/91		WK-GWTB06-02 02/07/91		WK-GWTB08-02 02/11/91		WK-GWTB10-02 04/01/91		WK-GWTB11-02 04/02/91	
Chloromethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromomethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Vinyl chloride (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Chloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Methylene chloride (UG/L)	5.	U/	5.	U/	6.	U/	5.	U/	22.	B/U
Acetone (UG/L)	10.	U/	10.	U/	9.	J/	10.	U/	10.	U/
Carbon disulfide (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethene (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chloroform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
2-Butanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,1,1-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Carbon tetrachloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Vinyl acetate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromodichloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloropropane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
cis-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Trichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Dibromochloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Benzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
trans-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Bromoform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
4-Methyl-2-pentanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Hexanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Tetrachloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Toluene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chlorobenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Ethylbenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Xylenes (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: SVOC
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-GWB01-01 11/02/90		WK-GWFB01-01 10/31/90		WK-GWFB02-01 11/02/90		WK-GWMW01D-01 10/31/90		WK-GWMW01S-01 10/31/90	
Phenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
bis(2-Chloroethyl) ether (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Chlorophenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,3-Dichlorobenzene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,4-Dichlorobenzene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Benzyl Alcohol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,2-Dichlorobenzene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Methylphenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
bis(2-Chloroisopropyl)ether (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
4-Methylphenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
N-Nitroso-di-n-dipropylamine (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Hexachloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Nitrobenzene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Isophorone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Nitrophenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2,4-Dimethylphenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Benzoic Acid (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
bis(2-Chloroethoxy)methane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2,4-Dichlorophenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,2,4-Trichlorobenzene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Naphthalene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
4-Chloroaniline (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Hexachlorobutadiene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
4-Chloro-3-methylphenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Methylnaphthalene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Hexachlorocyclopentadiene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2,4,6-Trichlorophenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2,4,5-Trichlorophenol (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
2-Chloronaphthalene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Nitroaniline (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
Dimethylphthalate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Acenaphthylene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2,6-Dinitrotoluene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
3-Nitroaniline (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
Acenaphthene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2,4-Dinitrophenol (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
4-Nitrophenol (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: SVOC

Parameter	WK-GWMW02D-01 10/31/90		WK-GWMW02S-01 10/31/90		WK-GWMW02S-91 10/31/90		WK-GWMW03D-01 11/01/90		WK-GWMW03S-01 11/01/90	
Phenol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
bis(2-Chloroethyl) ether (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2-Chlorophenol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
1,3-Dichlorobenzene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
1,4-Dichlorobenzene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Benzyl Alcohol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
1,2-Dichlorobenzene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2-Methylphenol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
bis(2-Chloroisopropyl)ether (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
4-Methylphenol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
N-Nitroso-di-n-dipropylamine (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Hexachloroethane (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Nitrobenzene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Isophorone (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2-Nitrophenol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2,4-Dimethylphenol (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/
Benzoic Acid (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
bis(2-Chloroethoxy)methane (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2,4-Dichlorophenol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
1,2,4-Trichlorobenzene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Naphthalene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
4-Chloroaniline (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Hexachlorobutadiene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
4-Chloro-3-methylphenol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2-Methylnaphthalene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Hexachlorocyclopentadiene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2,4,6-Trichlorophenol (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/
2,4,5-Trichlorophenol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2-Chloronaphthalene (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/
2-Nitroaniline (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Dimethylphthalate (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Acenaphthylene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2,6-Dinitrotoluene (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/
3-Nitroaniline (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Acenaphthene (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/
2,4-Dinitrophenol (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/
4-Nitrophenol (UG/L)										

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: SVOC

Parameter	WK-GWMW04D-01 11/01/90		WK-GWMW04S-01 11/01/90		WK-GWMW05D-01 11/01/90		WK-GWMW05D-91 11/01/90		WK-GWMW05S-01 11/01/90	
Phenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
bis(2-Chloroethyl) ether (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Chlorophenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,3-Dichlorobenzene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,4-Dichlorobenzene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Benzyl Alcohol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,2-Dichlorobenzene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Methylphenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
bis(2-Chloroisopropyl)ether (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
4-Methylphenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
N-Nitroso-di-n-dipropylamine (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Hexachloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Nitrobenzene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Isophorone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Nitrophenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2,4-Dimethylphenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Benzoic Acid (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
bis(2-Chloroethoxy)methane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2,4-Dichlorophenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,2,4-Trichlorobenzene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Naphthalene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
4-Chloroaniline (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Hexachlorobutadiene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
4-Chloro-3-methylphenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Methylnaphthalene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Hexachlorocyclopentadiene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2,4,6-Trichlorophenol (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2,4,5-Trichlorophenol (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
2-Chloronaphthalene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Nitroaniline (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
Dimethylphthalate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Acenaphthylene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2,6-Dinitrotoluene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
3-Nitroaniline (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
Acenaphthene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2,4-Dinitrophenol (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
4-Nitrophenol (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: SVOC

Parameter	WK-GWMW06D-01 11/02/90		WK-GWMW06S-01 11/02/90	
Phenol (UG/L)	10.	U/	10.	U/
bis(2-Chloroethyl) ether (UG/L)	10.	U/	10.	U/
2-Chlorophenol (UG/L)	10.	U/	10.	U/
1,3-Dichlorobenzene (UG/L)	10.	U/	10.	U/
1,4-Dichlorobenzene (UG/L)	10.	U/	10.	U/
Benzyl Alcohol (UG/L)	10.	U/	10.	U/
1,2-Dichlorobenzene (UG/L)	10.	U/	10.	U/
2-Methylphenol (UG/L)	10.	U/	10.	U/
bis(2-Chloroisopropyl)ether (UG/L)	10.	U/	10.	U/
4-Methylphenol (UG/L)	10.	U/	10.	U/
N-Nitroso-di-n-dipropylamine (UG/L)	10.	U/	10.	U/
Hexachloroethane (UG/L)	10.	U/	10.	U/
Nitrobenzene (UG/L)	10.	U/	10.	U/
Isophorone (UG/L)	10.	U/	10.	U/
2-Nitrophenol (UG/L)	10.	U/	10.	U/
2,4-Dimethylphenol (UG/L)	10.	U/	10.	U/
Benzoic Acid (UG/L)	50.	U/	50.	U/
bis(2-Chloroethoxy)methane (UG/L)	10.	U/	10.	U/
2,4-Dichlorophenol (UG/L)	10.	U/	10.	U/
1,2,4-Trichlorobenzene (UG/L)	10.	U/	10.	U/
Naphthalene (UG/L)	10.	U/	10.	U/
4-Chloroaniline (UG/L)	10.	U/	10.	U/
Hexachlorobutadiene (UG/L)	10.	U/	10.	U/
4-Chloro-3-methylphenol (UG/L)	10.	U/	10.	U/
2-Methylnaphthalene (UG/L)	10.	U/	10.	U/
Hexachlorocyclopentadiene (UG/L)	10.	U/	10.	U/
2,4,6-Trichlorophenol (UG/L)	10.	U/	10.	U/
2,4,5-Trichlorophenol (UG/L)	50.	U/	50.	U/
2-Chloronaphthalene (UG/L)	10.	U/	10.	U/
2-Nitroaniline (UG/L)	50.	U/	50.	U/
Dimethylphthalate (UG/L)	10.	U/	10.	U/
Acenaphthylene (UG/L)	10.	U/	10.	U/
2,6-Dinitrotoluene (UG/L)	10.	U/	10.	U/
3-Nitroaniline (UG/L)	50.	U/	50.	U/
Acenaphthene (UG/L)	10.	U/	10.	U/
2,4-Dinitrophenol (UG/L)	50.	U/	50.	U/
4-Nitrophenol (UG/L)	50.	U/	50.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: SVOC

Parameter	WK-GWBB01-01 11/02/90		WK-GWFB01-01 10/31/90		WK-GWFB02-01 11/02/90		WK-GWMW01D-01 10/31/90		WK-GWMW01S-01 10/31/90	
Dibenzofuran (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2,4-Dinitrotoluene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Diethylphthalate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
4-Chlorophenyl-phenylether (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Fluorene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
4-Nitroaniline (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
4,6-Dinitro-2-methylphenol (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
N-nitrosodiphenylamine (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
4-Bromophenyl-phenylether (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Hexachlorobenzene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Pentachlorophenol (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
Phenanthrene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Anthracene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Di-n-butylphthalate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Fluoranthene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Pyrene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Butylbenzylphthalate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
3,3'-Dichlorobenzidine (UG/L)	20.	U/	20.	U/	20.	U/	20.	U/	20.	U/
Benzo(a)anthracene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Chrysene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
bis(2-ethylhexyl)phthalate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Di-n-octyl Phthalate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Benzo(b)fluoranthene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Benzo(k)fluoranthene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Benzo(a)pyrene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Indeno(1,2,3-cd)pyrene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Dibenz(a,h)anthracene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Benzo(g,h,i)perylene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: SVOC

Parameter	WK-GWMW02D-01 10/31/90		WK-GWMW02S-01 10/31/90		WK-GWMW02S-91 10/31/90		WK-GWMW03D-01 11/01/90		WK-GWMW03S-01 11/01/90	
Dibenzofuran (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2,4-Dinitrotoluene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Diethylphthalate (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
4-Chlorophenyl-phenylether (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Fluorene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
4-Nitroaniline (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/
4,6-Dinitro-2-methylphenol (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/
N-nitrosodiphenylamine (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
4-Bromophenyl-phenylether (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Hexachlorobenzene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Pentachlorophenol (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/
Phenanthrene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Anthracene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Di-n-butylphthalate (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Fluoranthene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Pyrene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Butylbenzylphthalate (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
3,3'-Dichlorobenzidine (UG/L)	20.	U/	40.	U/	20.	U/	20.	U/	20.	U/
Benzo(a)anthracene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Chrysene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
bis(2-ethylhexyl)phthalate (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Di-n-octyl Phthalate (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Benzo(b)fluoranthene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Benzo(k)fluoranthene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Benzo(a)pyrene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Indeno(1,2,3-cd)pyrene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Dibenz(a,h)anthracene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Benzo(g,h,i)perylene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: SVOC

Parameter	WK-GWMW04D-01 11/01/90		WK-GWMW04S-01 11/01/90		WK-GWMW05D-01 11/01/90		WK-GWMW05D-91 11/01/90		WK-GWMW05S-01 11/01/90	
Dibenzofuran (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2,4-Dinitrotoluene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Diethylphthalate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
4-Chlorophenyl-phenylether (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Fluorene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
4-Nitroaniline (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
4,6-Dinitro-2-methylphenol (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
N-nitrosodiphenylamine (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
4-Bromophenyl-phenylether (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Hexachlorobenzene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Pentachlorophenol (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
Phenanthrene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Anthracene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Di-n-butylphthalate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Fluoranthene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Pyrene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Butylbenzylphthalate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
3,3'-Dichlorobenzidine (UG/L)	20.	U/	20.	U/	20.	U/	20.	U/	20.	U/
Benzo(a)anthracene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Chrysene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
bis(2-ethylhexyl)phthalate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	5.	J/
Di-n-octyl Phthalate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Benzo(b)fluoranthene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Benzo(k)fluoranthene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Benzo(a)pyrene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Indeno(1,2,3-cd)pyrene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Dibenz(a,h)anthracene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Benzo(g,h,i)perylene (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: SVOC

Parameter	WK-GWMW06D-01 11/02/90		WK-GWMW06S-01 11/02/90	
Dibenzofuran (UG/L)	10.	U/	10.	U/
2,4-Dinitrotoluene (UG/L)	10.	U/	10.	U/
Diethylphthalate (UG/L)	10.	U/	10.	U/
4-Chlorophenyl-phenylether (UG/L)	10.	U/	10.	U/
Fluorene (UG/L)	10.	U/	10.	U/
4-Nitroaniline (UG/L)	50.	U/	50.	U/
4,6-Dinitro-2-methylphenol (UG/L)	50.	U/	50.	U/
N-nitrosodiphenylamine (UG/L)	10.	U/	10.	U/
4-Bromophenyl-phenylether (UG/L)	10.	U/	10.	U/
Hexachlorobenzene (UG/L)	10.	U/	10.	U/
Pentachlorophenol (UG/L)	50.	U/	50.	U/
Phenanthrene (UG/L)	10.	U/	10.	U/
Anthracene (UG/L)	10.	U/	10.	U/
Di-n-butylphthalate (UG/L)	10.	U/	10.	U/
Fluoranthene (UG/L)	10.	U/	10.	U/
Pyrene (UG/L)	10.	U/	10.	U/
Butylbenzylphthalate (UG/L)	10.	U/	10.	U/
3,3'-Dichlorobenzidine (UG/L)	20.	U/	20.	U/
Benzo(a)anthracene (UG/L)	10.	U/	10.	U/
Chrysene (UG/L)	10.	U/	10.	U/
bis(2-ethylhexyl)phthalate (UG/L)	10.	U/	10.	U/
Di-n-octyl Phthalate (UG/L)	10.	U/	10.	U/
Benzo(b)fluoranthene (UG/L)	10.	U/	10.	U/
Benzo(k)fluoranthene (UG/L)	10.	U/	10.	U/
Benzo(a)pyrene (UG/L)	10.	U/	10.	U/
Indeno(1,2,3-cd)pyrene (UG/L)	10.	U/	10.	U/
Dibenz(a,h)anthracene (UG/L)	10.	U/	10.	U/
Benzo(g,h,i)perylene (UG/L)	10.	U/	10.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW
Generated by: CAW
Date Issued: 01-OCT-91

WK-GWMW11-91 08/08/91

(TVOA) Tentatively-Identified Volatiles

Compound (Units)	Concentration	LQ/DVQ
Unknown (UG/L)	19.	J/

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW
Generated by: CAW
Date Issued: 10-MAY-91

WK-GWMW01S-01 10/31/90

(TVOA) Tentatively-Identified Volatiles

Compound (Units)	Concentration	LQ/DVQ
ETHANE, 1,1'-OXYBIS (UG/L)	7.	J/

WK-GWMW01S-02 02/06/91

(TVOA) Tentatively-Identified Volatiles

Compound (Units)	Concentration	LQ/DVQ
Unknown (UG/L)	8.	J/JN

WK-GWMW02S-01 10/31/90

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Unknown (UG/L)	32.	J/

WK-GWMW07-01 02/06/91

(TVOA) Tentatively-Identified Volatiles

Compound (Units)	Concentration	LQ/DVQ
Unknown (UG/L)	8.	J/JN

WK-GWMW07-02 04/02/91

(TVOA) Tentatively-Identified Volatiles

Compound (Units)	Concentration	LQ/DVQ
Unknown (UG/L)	6.	J/

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SB Type: SLIND
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-SBMW01D-08.5 07/27/90		WK-SBMW01D-41 07/30/90		WK-SBMW02-43 08/03/90		WK-SBMW02-60 08/03/90		WK-SBMW03-06 08/06/90	
Total Organic Carbon (MG/KG)	16000.	>/	16000.	>/	16000.	>/	16000.	>/	16000.	>/
Cation Exchange Capacity (MEQ/L)	0.	U/	0.	U/	3.95	/	0.	U/	0.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SB Type: SLIND

Parameter	WK-SBMW04-13.5 08/10/90		WK-SBMW05-22 08/01/90		WK-SBMW06-08.5 07/31/90		WK-SBMW06-33.5 07/31/90	
Total Organic Carbon (MG/KG)	16000.	>/	16000.	>/	140.	/	16000.	>/
Cation Exchange Capacity (MEQ/L)	0.	U/	5.88	/	0.	U/	0.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

DISQUALIFIED MONITORING WELL SAMPLES

NOTE FOR APPENDIX F-3a

A sampling error was made at four deep monitoring wells in the Phase I, Round 1 sampling (October 31 to November 2, 1991). The analytical results which were disqualified as a result of the sampling error are presented in this Appendix.

The initial analytical results (from October 31 to November 2, 1991 sampling) indicated that trichloroethylene (TCE) and Xylenes had been detected at or below detection limit in monitoring wells MW-1D, MW-2D, MW-5D, and MW-6D; total xylenes were also estimated at 2 ug/l at each of these wells. During data validation, it was discovered that trace levels of TCE were also found in the field blanks collected through the bladder pump which had been used to purge and sample these wells. The blanks indicated TCE levels of 18 ug/l and a xylene level of 2 ug/l. It was discovered that the pump used to purge these wells had previously been used at a site contaminated with TCE. These monitoring wells were re-sampled on December 12, 1990. The results of the resampling indicated no detection of either trichloroethylene or xylenes.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: VOA
Generated by: CAW
Date Issued: 04-JUN-91

Parameter	WK-GWMW01D-BAD 10/31/90		WK-GWMW02D-BAD 10/31/90		WK-GWMW05D-9BAD 11/01/90		WK-GWMW05D-BAD 11/01/90		WK-GWMW06D-BAD 11/02/90	
Chloromethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromomethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Vinyl chloride (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Chloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Methylene chloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/UJ
Acetone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Carbon disulfide (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethene (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chloroform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
2-Butanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,1,1-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Carbon tetrachloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Vinyl acetate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromodichloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloropropane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
cis-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Trichloroethene (UG/L)	5.	/U	4.	J/U	4.	J/U	4.	J/U	4.	J/
Dibromochloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Benzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
trans-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Bromoform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
4-Methyl-2-pentanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Hexanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Tetrachloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Toluene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chlorobenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Ethylbenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Xylenes (total) (UG/L)	2.	J/U	1.	J/U	2.	J/U	2.	J/U	2.	J/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

POSITIVE DETECT/USABLE ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GW Type: VOA
Generated by: CAW
Date Issued: 04-JUN-91

Parameter	WK-GWMW01D-BAD 10/31/90	WK-GWMW02D-BAD 10/31/90	WK-GWMW05D-9BAD 11/01/90	WK-GWMW05D-BAD 11/01/90	WK-GWMW06D-BAD 11/02/90
Chloromethane (UG/L)					
Bromomethane (UG/L)					
Vinyl chloride (UG/L)					
Chloroethane (UG/L)					
Methylene chloride (UG/L)					
Acetone (UG/L)					
Carbon disulfide (UG/L)					
1,1-Dichloroethene (UG/L)					
1,1-Dichloroethane (UG/L)					
1,2-Dichloroethene (total) (UG/L)					
Chloroform (UG/L)					
1,2-Dichloroethane (UG/L)					
2-Butanone (UG/L)					
1,1,1-Trichloroethane (UG/L)					
Carbon tetrachloride (UG/L)					
Vinyl acetate (UG/L)					
Bromodichloromethane (UG/L)					
1,2-Dichloropropane (UG/L)					
cis-1,3-Dichloropropene (UG/L)					
Trichloroethene (UG/L)					
Dibromochloromethane (UG/L)					4. J/
1,1,2-Trichloroethane (UG/L)					
Benzene (UG/L)					
trans-1,3-Dichloropropene (UG/L)					
Bromoform (UG/L)					
4-Methyl-2-pentanone (UG/L)					
2-Hexanone (UG/L)					
Tetrachloroethene (UG/L)					
1,1,2,2-Tetrachloroethane (UG/L)					
Toluene (UG/L)					
Chlorobenzene (UG/L)					
Ethylbenzene (UG/L)					
Styrene (UG/L)					
Xylenes (total) (UG/L)					2. J/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

PRIVATE WELLS

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: PW Type: MTL
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-PW01-01 07/24/90		WK-PW02-01 07/24/90		WK-PW03-01 07/24/90		WK-PW04-01 07/24/90		WK-PW04-91 07/24/90	
Aluminum (UG/L)	50.	U/	50.	U/	52.	K/	51.	K/	50.	U/
Antimony (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Arsenic (UG/L)	2.3	K/	2.	US/	2.	U/	2.6	K/	2.	U/
Barium (UG/L)	63.	K/	10.	U/	98.	K/	134.	K/	137.	K/
Beryllium (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Cadmium (UG/L)	0.2	U/	0.2	U/	0.2	U/	0.2	U/	0.2	U/
Calcium (UG/L)	124000.	/	1300.	K/	82400.	/	109000.	/	109000.	/
Chromium, total (UG/L)	0.96	K/U	0.52	K/U	0.53	K/U	0.38	K/U	0.44	K/U
Cobalt (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Copper (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Iron (UG/L)	2430.	/	107.	/	996.	/	2500.	/	2680.	/
Lead (UG/L)	3.	U/	3.	U/	3.	U/	3.	U/	3.	U/
Magnesium (UG/L)	68400.	/	1000.	U/	37200.	/	60000.	/	61200.	/
Manganese (UG/L)	119.	/	10.	U/	57.	/	34.	/	32.	/
Mercury (UG/L)	0.2	U/	0.2	U/	0.21	/	0.2	U/	0.2	U/
Nickel (UG/L)	20.	U/	20.	U/	20.	U/	20.	U/	20.	U/
Potassium (UG/L)	1670.	KN/J	530.	KN/J	1190.	KN/J	1110.	KN/J	1020.	KN/J
Selenium (UG/L)	2.	U/	2.	U/	2.	US/	2.	U/	2.	U/
Silver (UG/L)	0.5	US/UJ	0.5	US/UJ	0.5	US/UJ	0.5	US/UJ	0.5	US/UJ
Sodium (UG/L)	15200.	/	306000.	/	34000.	/	9500.	/	9100.	/
Thallium (UG/L)	3.	U/	3.	US/	3.	U/	3.	U/	3.	KS/
Vanadium (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
Zinc (UG/L)	284.	/	50.	/	23.	/	132.	/	133.	/
Cyanide (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: PW Type: MTL

Parameter	WK-PWF801-01 07/24/90	
Aluminum (UG/L)	50.	U/
Antimony (UG/L)	5.	U/
Arsenic (UG/L)	2.	U/
Barium (UG/L)	10.	U/
Beryllium (UG/L)	5.	U/
Cadmium (UG/L)	0.2	U/
Calcium (UG/L)	1000.	U/
Chromium, total (UG/L)	0.51	K/U
Cobalt (UG/L)	10.	U/
Copper (UG/L)	10.	U/
Iron (UG/L)	20.	U/
Lead (UG/L)	3.	U/
Magnesium (UG/L)	1000.	U/
Manganese (UG/L)	10.	U/
Mercury (UG/L)	0.2	U/
Nickel (UG/L)	20.	U/
Potassium (UG/L)	100.	UN/UJ
Selenium (UG/L)	2.	U/
Silver (UG/L)	0.5	U/UJ
Sodium (UG/L)	1000.	U/
Thallium (UG/L)	3.	U/
Vanadium (UG/L)	50.	U/
Zinc (UG/L)	10.	U/
Cyanide (UG/L)	10.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: PW Type: VOC
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-PW01-01 07/24/90		WK-PW02-01 07/24/90		WK-PW03-01 07/24/90		WK-PW04-01 07/24/90		WK-PW04-91 07/24/90	
Chloromethane (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Bromomethane (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Vinyl chloride (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Chloroethane (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Methylene chloride (UG/L)	6.	/U	1.	/U	1.	/U	1.	/U	1.	U/
Acetone (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Carbon disulfide (UG/L)	3.	U/	3.	U/	3.	U/	3.	U/	3.	U/
1,1-Dichloroethene (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
1,1-Dichloroethane (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
1,2-Dichloroethene (total) (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Chloroform (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
1,2-Dichloroethane (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
2-Butanone (UG/L)	5.	U/R	5.	U/R	5.	U/	5.	U/R	5.	U/R
1,1,1-Trichloroethane (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Carbon tetrachloride (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Vinyl acetate (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Bromodichloromethane (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
1,2-Dichloropropane (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
cis-1,3-Dichloropropene (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Trichloroethene (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Dibromochloromethane (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
1,1,2-Trichloroethane (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Benzene (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
trans-1,3-Dichloropropene (UG/L)	1.	U/	1.	U/	1.	U/	1.	U/	1.	U/
Bromoform (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
4-Methyl-2-pentanone (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
2-Hexanone (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Tetrachloroethene (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
1,1,2,2-Tetrachloroethane (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Toluene (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Chlorobenzene (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Ethylbenzene (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Styrene (UG/L)	1.	U/	1.	U/	1.	U/	1.	U/	1.	U/
Xylenes (total) (UG/L)	2.	U/	2.	U/	2.	U/	2.	U/	2.	U/
Acrolein (UG/L)	25.	U/R	25.	U/R	25.	U/	25.	U/R	25.	U/R
Acrylonitrile (UG/L)	25.	U/	25.	U/	25.	U/	25.	U/	25.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: PW Type: VOC

Parameter	WK-PWFB01-01 07/24/90		WK-PWTB01-01 07/24/90	
Chloromethane (UG/L)	2.	U/	2.	U/
Bromomethane (UG/L)	2.	U/	2.	U/
Vinyl chloride (UG/L)	2.	U/	2.	U/
Chloroethane (UG/L)	2.	U/	2.	U/
Methylene chloride (UG/L)	0.5	J/	1.	U/
Acetone (UG/L)	6.	B/U	5.	U/
Carbon disulfide (UG/L)	3.	U/	3.	U/
1,1-Dichloroethene (UG/L)	2.	U/	2.	U/
1,1-Dichloroethane (UG/L)	2.	U/	2.	U/
1,2-Dichloroethene (total) (UG/L)	2.	U/	2.	U/
Chloroform (UG/L)	4.	/	4.	/
1,2-Dichloroethane (UG/L)	2.	U/	2.	U/
2-Butanone (UG/L)	5.	U/R	5.	U/R
1,1,1-Trichloroethane (UG/L)	2.	U/	2.	U/
Carbon tetrachloride (UG/L)	2.	U/	2.	U/
Vinyl acetate (UG/L)	5.	U/	5.	U/
Bromodichloromethane (UG/L)	2.	U/	0.5	J/
1,2-Dichloropropane (UG/L)	2.	U/	2.	U/
cis-1,3-Dichloropropene (UG/L)	2.	U/	2.	U/
Trichloroethene (UG/L)	2.	U/	2.	U/
Dibromochloromethane (UG/L)	2.	U/	2.	U/
1,1,2-Trichloroethane (UG/L)	2.	U/	2.	U/
Benzene (UG/L)	2.	U/	2.	U/
trans-1,3-Dichloropropene (UG/L)	1.	U/	1.	U/
Bromoform (UG/L)	2.	U/	2.	U/
4-Methyl-2-pentanone (UG/L)	2.	U/	2.	U/
2-Hexanone (UG/L)	5.	U/	5.	U/
Tetrachloroethene (UG/L)	2.	U/	2.	U/
1,1,2,2-Tetrachloroethane (UG/L)	2.	U/	2.	U/
Toluene (UG/L)	2.	U/	2.	U/
Chlorobenzene (UG/L)	2.	U/	2.	U/
Ethylbenzene (UG/L)	2.	U/	2.	U/
Styrene (UG/L)	1.	U/	1.	U/
Xylenes (total) (UG/L)	2.	U/	2.	U/
Acrolein (UG/L)	25.	U/R	25.	U/R
Acrylonitrile (UG/L)	25.	U/	25.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

SEDIMENT

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SO Type: SLIND MTL
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-SD01-01 09/06/90		WK-SD01-91 09/06/90		WK-SD02-01 09/06/90		WK-SD03-01 09/06/90		WK-SD04-01 09/06/90	
Aluminum (MG/KG)	8870.	/	7470.	/	9630.	/	15600.	/	13800.	/
Antimony (MG/KG)	33.7	UN/UJ	34.	UN/UJ	33.3	UN/UJ	49.	UN/UJ	21.4	UN/UJ
Arsenic (MG/KG)	6.3	K/	7.5	/	12.7	/	24.	S/	9.7	/
Barium (MG/KG)	209.	/	223.	/	243.	/	316.	/	238.	/
Beryllium (MG/KG)	3.4	U/	3.4	U/	3.3	U/	4.9	U/	2.1	U/
Cadmium (MG/KG)	3.4	U/	3.4	U/	3.3	U/	4.9	U/	2.1	U/
Calcium (MG/KG)	33200.	/	36500.	/	43300.	/	112000.	/	66800.	/
Chromium, total (MG/KG)	15.5	/	14.3	/	28.	/	30.4	/	41.4	/
Cobalt (MG/KG)	6.7	U/	6.8	U/	7.3	K/U	10.8	K/U	9.4	K/U
Copper (MG/KG)	28.3	/	29.3	/	99.3	/	28.4	/	144.	/
Iron (MG/KG)	20800.	/	21300.	/	28000.	/	67000.	/	56300.	/
Lead (MG/KG)	44.9	/	50.2	/	109.	/	43.7	S/	30.5	S/
Magnesium (MG/KG)	4310.	/	4370.	/	6500.	/	14700.	/	13800.	/
Manganese (MG/KG)	357.	/	445.	/	531.	/	676.	/	747.	/
Mercury (MG/KG)	0.15	/	0.14	U/	0.15	/	0.2	U/	0.3	/
Nickel (MG/KG)	31.6	/	17.7	K/	107.	/	24.5	K/	274.	/
Potassium (MG/KG)	821.	K/	694.	K/	1110.	K/	4210.	K/	1600.	K/
Selenium (MG/KG)	2.4	K/	1.6	KS/	1.9	K/	2.9	K/	1.7	K/
Silver (MG/KG)	6.7	U/	6.8	U/	6.7	U/	49.	U/	4.3	U/
Sodium (MG/KG)	1350.	U/	1360.	U/	1330.	U/	1960.	U/	855.	U/
Thallium (MG/KG)	2.5	K/	2.	U/	2.	U/	3.7	KS/	2.1	K/
Vanadium (MG/KG)	34.3	/	34.	U/	33.3	U/	49.	U/	37.6	/
Zinc (MG/KG)	196.	/	212.	/	806.	/	175.	/	715.	/
Cyanide (MG/KG)	8.4	U/	8.5	U/	8.3	U/	12.2	U/	5.3	U/
Total Organic Carbon (MG/KG)	16000.	>/	16000.	>/	16000.	>/	16000.	>/	16000.	>/
Cation Exchange Capacity (MEQ/L)	16.1	/	16.3	/	19.4	/	7.86	/	5.4	/
Total Solids (%)	29.7	/	29.4	/	30.	/	20.4	/	46.8	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

Matrix: SO Type: SLIND MTL

Parameter	WK-SD05-01 09/06/90		WK-SD06-01 09/06/90		WK-SD07-01 09/06/90		WK-SD08-01 09/06/90		WK-SD10-01 04/02/91	
Aluminum (MG/KG)	6270.	/	8850.	/	6210.	/	12500.	/	5560.	/
Antimony (MG/KG)	25.4	UN/UJ	24.4	UN/UJ	15.8	UN/UJ	56.5	UN/UJ	49.6	U/
Arsenic (MG/KG)	18.1	/	7.	/	2.3	K/	5.3	K/	11.1	K/
Barium (MG/KG)	203.	/	146.	/	46.8	K/	100.	K/	112.	K/
Beryllium (MG/KG)	2.5	U/	2.4	U/	1.6	U/	5.6	U/	5.	U/
Cadmium (MG/KG)	2.5	U/	2.4	U/	1.6	U/	5.6	U/	5.	U/
Calcium (MG/KG)	136000.	/	99800.	/	61400.	/	18500.	/	35100.	N/J
Chromium, total (MG/KG)	11.7	/	13.2	/	8.9	/	18.1	/	9.9	U/
Cobalt (MG/KG)	6.6	K/U	5.8	K/U	5.1	K/U	11.3	U/	9.9	U/
Copper (MG/KG)	61.	/	26.8	/	10.7	/	29.4	/	12.9	K/
Iron (MG/KG)	46300.	/	16700.	/	10600.	/	14600.	/	18200.	/
Lead (MG/KG)	46.8	S/	22.7	S/	11.3	S/	44.9	S/	72.8	S*/
Magnesium (MG/KG)	16700.	/	4270.	/	29000.	/	8570.	/	6880.	/
Manganese (MG/KG)	605.	/	558.	/	208.	/	147.	/	148.	/
Mercury (MG/KG)	0.1	U/	0.1	U/	0.06	U/	0.23	U/	0.28	U/
Nickel (MG/KG)	42.2	/	9.7	U/	6.3	U/	45.2	K/	19.8	U/
Potassium (MG/KG)	1380.	K/	1250.	K/	692.	K/	1610.	K/	784.	K/
Selenium (MG/KG)	1.	U/	0.98	US/	0.63	U/	2.3	U/	2.3	US/
Silver (MG/KG)	5.1	U/	4.9	U/	3.2	U/	11.3	U/	9.9	U/
Sodium (MG/KG)	1020.	U/	975.	U/	939.	K/	5490.	K/	2040.	K/
Thallium (MG/KG)	1.6	K/	1.5	U/	0.95	U/	3.4	U/	3.4	U/
Vanadium (MG/KG)	25.4	U/	26.8	/	23.4	/	56.5	U/	49.6	U/
Zinc (MG/KG)	432.	/	168.	/	42.7	/	150.	/	108.	/
Cyanide (MG/KG)	6.4	U/	6.1	U/	3.9	U/	14.1	U/		
Total Organic Carbon (MG/KG)	16000.	>/	16000.	>/	16000.	>/	16000.	>/		
Cation Exchange Capacity (MEQ/L)	5.08	/	11.5	/	5.11	/	12.7	/		
Total Solids (%)	39.3	/	41.	/	63.3	/	17.7	/	14.3	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SD Type: SLIND MTL

Parameter	WK-SD10-91 04/02/91		WK-SD11-01 04/03/91		WK-SD12-01 04/03/91		WK-SD13-01 04/03/91		WK-SD14-01 04/03/91	
Aluminum (MG/KG)	8390.	/	8850.	/	12300.	/	8400.	/	11600.	/
Antimony (MG/KG)	41.	U/	57.	U/	22.9	U/	50.7	U/	19.5	U/
Arsenic (MG/KG)	12.9	/	12.8	/	7.3	/	6.9	K/	5.5	/
Barium (MG/KG)	152.	K/	165.	K/	172.	/	97.3	K/	161.	/
Beryllium (MG/KG)	4.1	U/	5.7	U/	2.3	U/	5.1	U/	1.9	U/
Cadmium (MG/KG)	4.1	U/	5.7	U/	2.3	U/	5.1	U/	1.9	U/
Calcium (MG/KG)	38400.	N/J	54400.	N/J	29300.	N/J	22000.	N/J	11000.	N/J
Chromium, total (MG/KG)	8.6	/	13.2	/	18.2	/	10.1	U/	15.6	/
Cobalt (MG/KG)	8.2	U/	11.4	U/	6.9	K/	10.1	U/	7.	K/
Copper (MG/KG)	14.8	K/	31.9	/	17.8	/	12.2	K/	17.5	/
Iron (MG/KG)	25000.	/	34500.	/	29900.	/	16100.	/	15400.	/
Lead (MG/KG)	73.	*/	58.3	*/	18.7	*/	450.	*/	42.1	S*/
Magnesium (MG/KG)	8950.	/	10600.	/	6830.	/	3270.	K/	3630.	/
Manganese (MG/KG)	152.	/	270.	/	293.	/	238.	/	1260.	/
Mercury (MG/KG)	0.19	U/	0.29	U/	0.11	U/	0.27	U/	0.11	U/
Nickel (MG/KG)	16.4	U/	28.5	K/	16.9	K/	20.3	U/	16.8	/
Potassium (MG/KG)	1020.	K/	1630.	K/	1460.	K/	1050.	K/	1590.	K/
Selenium (MG/KG)	1.4	K/	2.3	KS/	1.6	K/	2.4	US/	0.96	K/
Silver (MG/KG)	8.2	U/	11.4	U/	4.6	U/	10.1	U/	3.9	U/
Sodium (MG/KG)	2000.	K/	2300.	K/	914.	U/	2030.	U/	779.	U/
Thallium (MG/KG)	2.1	U/	3.4	U/	1.2	US/	3.6	U/	1.1	U/
Vanadium (MG/KG)	41.	U/	57.	U/	22.9	U/	50.7	U/	26.1	/
Zinc (MG/KG)	140.	/	513.	/	87.8	/	53.7	/	93.9	/
Cyanide (MG/KG)										
Total Organic Carbon (MG/KG)										
Cation Exchange Capacity (MEQ/L)										
Total Solids (%)	21.4	/	13.9	/	34.9	/	14.6	/	35.4	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SD Type: SLIND MTL

Parameter	WK-SD15-01 04/03/91		WK-SD16-01 04/03/91	
Aluminum (MG/KG)	12800.	/	3430.	/
Antimony (MG/KG)	42.	U/	41.7	U/
Arsenic (MG/KG)	9.3	/	12.5	/
Barium (MG/KG)	129.	K/	79.2	K/
Beryllium (MG/KG)	4.2	U/	4.2	U/
Cadmium (MG/KG)	4.2	U/	4.2	U/
Calcium (MG/KG)	65000.	N/J	23600.	N/J
Chromium, total (MG/KG)	17.6	/	8.3	U/
Cobalt (MG/KG)	11.7	K/	8.3	U/
Copper (MG/KG)	26.9	/	15.	K/
Iron (MG/KG)	22700.	/	16500.	/
Lead (MG/KG)	56.6	*/	73.	*/
Magnesium (MG/KG)	18500.	/	3160.	K/
Manganese (MG/KG)	571.	/	181.	/
Mercury (MG/KG)	0.2	U/	0.23	U/
Nickel (MG/KG)	16.8	K/	16.7	U/
Potassium (MG/KG)	2020.	K/	1510.	K/
Selenium (MG/KG)	1.7	US/	1.8	US/
Silver (MG/KG)	8.4	U/	8.3	U/
Sodium (MG/KG)	4440.	/	1670.	U/
Thallium (MG/KG)	2.6	U/	2.7	U/
Vanadium (MG/KG)	42.	U/	41.7	U/
Zinc (MG/KG)	153.	/	131.	/
Cyanide (MG/KG)				
Total Organic Carbon (MG/KG)				
Cation Exchange Capacity (MEQ/L)				
Total Solids (%)	19.7	/	17.3	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SD Type: VOC
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-SD01-01 09/06/90		WK-SD01-91 09/06/90		WK-SD02-01 09/06/90		WK-SD03-01 09/06/90		WK-SD04-01 09/06/90	
Chloromethane (UG/KG)	33.	U/	30.	U/	32.	U/	37.	U/	20.	U/
Bromomethane (UG/KG)	33.	U/	30.	U/	32.	U/	37.	U/	20.	U/
Vinyl chloride (UG/KG)	33.	U/	30.	U/	32.	U/	37.	U/	20.	U/
Chloroethane (UG/KG)	33.	U/	30.	U/	32.	U/	37.	U/	20.	U/
Methylene chloride (UG/KG)	47.	B/U	57.	B/U	64.	B/U	43.	B/U	57.	B/U
Acetone (UG/KG)	33.	U/	74.	B/U	140.	B/U	130.	B/U	87.	B/U
Carbon disulfide (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
1,1-Dichloroethene (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
1,1-Dichloroethane (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
1,2-Dichloroethene (total) (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
Chloroform (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
1,2-Dichloroethane (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
2-Butanone (UG/KG)	33.	U/	30.	U/	32.	U/	15.	J/	20.	U/
1,1,1-Trichloroethane (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
Carbon tetrachloride (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
Vinyl acetate (UG/KG)	33.	U/	30.	U/	32.	U/	37.	U/	20.	U/
Bromodichloromethane (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
1,2-Dichloropropane (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
cis-1,3-Dichloropropene (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
Trichloroethene (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
Dibromochloromethane (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
1,1,2-Trichloroethane (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
Benzene (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
trans-1,3-Dichloropropene (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
Bromoform (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
4-Methyl-2-pentanone (UG/KG)	33.	U/	30.	U/	32.	U/	37.	U/	20.	U/
2-Hexanone (UG/KG)	33.	U/	30.	U/	32.	U/	37.	U/	20.	U/
Tetrachloroethene (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
1,1,2,2-Tetrachloroethane (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
Toluene (UG/KG)	16.5	U/	15.	U/	12.	J/	17.	J/	14.	/
Chlorobenzene (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
Ethylbenzene (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
Styrene (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/
Xylenes (total) (UG/KG)	16.5	U/	15.	U/	16.	U/	18.5	U/	10.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SD Type: VOC

Parameter	WK-SD05-01 09/06/90		WK-SD06-01 09/06/90		WK-SD07-01 09/06/90		WK-SD08-01 09/06/90	
Chloromethane (UG/KG)	28.	U/	23.	U/	13.	U/	77.	U/
Bromomethane (UG/KG)	28.	U/	23.	U/	13.	U/	77.	U/
Vinyl chloride (UG/KG)	28.	U/	23.	U/	13.	U/	77.	U/
Chloroethane (UG/KG)	28.	U/	23.	U/	13.	U/	77.	U/
Methylene chloride (UG/KG)	28.	B/U	21.	B/U	17.	B/U	220.	B/U
Acetone (UG/KG)	62.	B/U	55.	B/U	32.	B/U	280.	B/U
Carbon disulfide (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
1,1-Dichloroethene (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
1,1-Dichloroethane (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
1,2-Dichloroethene (total) (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
Chloroform (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
1,2-Dichloroethane (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
2-Butanone (UG/KG)	28.	U/	23.	U/	13.	U/	39.	BJ/U
1,1,1-Trichloroethane (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
Carbon tetrachloride (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
Vinyl acetate (UG/KG)	28.	U/	23.	U/	13.	U/	77.	U/
Bromodichloromethane (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
1,2-Dichloropropane (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
cis-1,3-Dichloropropene (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
Trichloroethene (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
Dibromochloromethane (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
1,1,2-Trichloroethane (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
Benzene (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
trans-1,3-Dichloropropene (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
Bromoform (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
4-Methyl-2-pentanone (UG/KG)	28.	U/	23.	U/	13.	U/	77.	U/
2-Hexanone (UG/KG)	28.	U/	23.	U/	13.	U/	77.	U/
Tetrachloroethene (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
1,1,2,2-Tetrachloroethane (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
Toluene (UG/KG)	3.	J/	3.	J/	7.	/	92.	/
Chlorobenzene (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
Ethylbenzene (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
Styrene (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/
Xylenes (total) (UG/KG)	14.	U/	11.5	U/	6.5	U/	38.5	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SO Type: SVOC
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-SD01-01 09/06/90		WK-SD01-91 09/06/90		WK-SD02-01 09/06/90		WK-SD03-01 09/06/90		WK-SD04-01 09/06/90	
Phenol (UG/KG)	1089.	U/	1188.	U/	1100.	J/	1485.	U/	627.	U/
bis(2-Chloroethyl) ether (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
2-Chlorophenol (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
1,3-Dichlorobenzene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
1,4-Dichlorobenzene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Benzyl Alcohol (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
1,2-Dichlorobenzene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	100.	J/
2-Methylphenol (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
bis(2-Chloroisopropyl)ether (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
4-Methylphenol (UG/KG)	1089.	U/	1188.	U/	180.	J/	1485.	U/	627.	U/
N-Nitroso-di-n-dipropylamine (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Hexachloroethane (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Nitrobenzene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Isophorone (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
2-Nitrophenol (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
2,4-Dimethylphenol (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Benzoic Acid (UG/KG)	5280.	U/	5760.	U/	190.	J/	7200.	U/	3040.	U/
bis(2-Chloroethoxy)methane (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
2,4-Dichlorophenol (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
1,2,4-Trichlorobenzene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Naphthalene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
4-Chloroaniline (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Hexachlorobutadiene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
4-Chloro-3-methylphenol (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
2-Methylnaphthalene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Hexachlorocyclopentadiene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
2,4,6-Trichlorophenol (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
2,4,5-Trichlorophenol (UG/KG)	5280.	U/	5760.	U/	5328.	U/	7200.	U/	3040.	U/
2-Chloronaphthalene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
2-Nitroaniline (UG/KG)	5280.	U/	5760.	U/	5328.	U/	7200.	U/	3040.	U/
Dimethylphthalate (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Acenaphthylene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
2,6-Dinitrotoluene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
3-Nitroaniline (UG/KG)	5280.	U/	5760.	U/	5328.	U/	7200.	U/	3040.	U/
Acenaphthene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
2,4-Dinitrophenol (UG/KG)	5280.	U/	5760.	U/	5328.	U/	7200.	U/	3040.	U/
4-Nitrophenol (UG/KG)	5280.	U/	5760.	U/	5328.	U/	7200.	U/	3040.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SD Type: SVOC

Parameter	WK-SD05-01 09/06/90		WK-SD06-01 09/06/90		WK-SD07-01 09/06/90		WK-SD08-01 09/06/90	
Phenol (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
bis(2-Chloroethyl) ether (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
2-Chlorophenol (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
1,3-Dichlorobenzene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
1,4-Dichlorobenzene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Benzyl Alcohol (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
1,2-Dichlorobenzene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
2-Methylphenol (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
bis(2-Chloroisopropyl)ether (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
4-Methylphenol (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
N-Nitroso-di-n-dipropylamine (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Hexachloroethane (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Nitrobenzene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Isophorone (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
2-Nitrophenol (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
2,4-Dimethylphenol (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Benzoic Acid (UG/KG)	3680.	U/	3520.	U/	2080.	U/	35840.	U/
bis(2-Chloroethoxy)methane (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
2,4-Dichlorophenol (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
1,2,4-Trichlorobenzene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Naphthalene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
4-Chloroaniline (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Hexachlorobutadiene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
4-Chloro-3-methylphenol (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
2-Methylnaphthalene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Hexachlorocyclopentadiene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
2,4,6-Trichlorophenol (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
2,4,5-Trichlorophenol (UG/KG)	3680.	U/	3520.	U/	2080.	U/	35840.	U/
2-Chloronaphthalene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
2-Nitroaniline (UG/KG)	3680.	U/	3520.	U/	2080.	U/	35840.	U/
Dimethylphthalate (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Acenaphthylene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
2,6-Dinitrotoluene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
3-Nitroaniline (UG/KG)	3680.	U/	3520.	U/	2080.	U/	35840.	U/
Acenaphthene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
2,4-Dinitrophenol (UG/KG)	3680.	U/	3520.	U/	2080.	U/	35840.	U/
4-Nitrophenol (UG/KG)	3680.	U/	3520.	U/	2080.	U/	35840.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SO Type: SVOC

Parameter	WK-SD01-01 09/06/90		WK-SD01-91 09/06/90		WK-SD02-01 09/06/90		WK-SD03-01 09/06/90		WK-SD04-01 09/06/90	
Dibenzofuran (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
2,4-Dinitrotoluene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Diethylphthalate (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
4-Chlorophenyl-phenylether (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Fluorene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
4-Nitroaniline (UG/KG)	5280.	U/	5760.	U/	5328.	U/	7200.	U/	3040.	U/
4,6-Dinitro-2-methylphenol (UG/KG)	5280.	U/	5760.	U/	5328.	U/	7200.	U/	3040.	U/
N-nitrosodiphenylamine (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
4-Bromophenyl-phenylether (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Hexachlorobenzene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Pentachlorophenol (UG/KG)	5280.	U/	5760.	U/	5328.	U/	7200.	U/	3040.	U/
Phenanthrene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Anthracene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Di-n-butylphthalate (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Fluoranthene (UG/KG)	1089.	U/	1188.	U/	120.	J/	1485.	U/	627.	U/
Pyrene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Butylbenzylphthalate (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
3,3'-Dichlorobenzidine (UG/KG)	2574.	U/	2808.	U/	2597.4	U/	3510.	U/	1482.	U/
Benzo(a)anthracene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Chrysene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
bis(2-ethylhexyl)phthalate (UG/KG)	350.	J/	250.	J/	1200.	/	270.	J/	290.	J/
Di-n-octyl Phthalate (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Benzo(b)fluoranthene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Benzo(k)fluoranthene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Benzo(a)pyrene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Indeno(1,2,3-cd)pyrene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Dibenz(a,h)anthracene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/
Benzo(g,h,i)perylene (UG/KG)	1089.	U/	1188.	U/	1098.9	U/	1485.	U/	627.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SD Type: SVOC

Parameter	WK-SD05-01 09/06/90		WK-SD06-01 09/06/90		WK-SD07-01 09/06/90		WK-SD08-01 09/06/90	
Dibenzofuran (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
2,4-Dinitrotoluene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Diethylphthalate (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
4-Chlorophenyl-phenylether (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Fluorene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
4-Nitroaniline (UG/KG)	3680.	U/	3520.	U/	2080.	U/	35840.	U/
4,6-Dinitro-2-methylphenol (UG/KG)	3680.	U/	3520.	U/	2080.	U/	35840.	U/
N-nitrosodiphenylamine (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
4-Bromophenyl-phenylether (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Hexachlorobenzene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Pentachlorophenol (UG/KG)	3680.	U/	3520.	U/	2080.	U/	35840.	U/
Phenanthrene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Anthracene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Di-n-butylphthalate (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Fluoranthene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Pyrene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Butylbenzylphthalate (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
3,3'-Dichlorobenzidine (UG/KG)	1794.	U/	1716.	U/	1014.	U/	17472.	U/
Benzo(a)anthracene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Chrysene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
bis(2-ethylhexyl)phthalate (UG/KG)	220.	J/	200.	J/	60.	J/	7392.	U/
Di-n-octyl Phthalate (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Benzo(b)fluoranthene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Benzo(k)fluoranthene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Benzo(a)pyrene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Indeno(1,2,3-cd)pyrene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Dibenz(a,h)anthracene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/
Benzo(g,h,i)perylene (UG/KG)	759.	U/	726.	U/	429.	U/	7392.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SD Type: PPCB
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-SD01-01 09/06/90		WK-SD01-91 09/06/90		WK-SD02-01 09/06/90		WK-SD03-01 09/06/90		WK-SD04-01 09/06/90	
alpha-BHC (UG/KG)	28.	U/	28.	U/	28.	U/	360.	U/	1600.	U/
beta-BHC (UG/KG)	28.	U/	28.	U/	28.	U/	360.	U/	1600.	U/
delta-BHC (UG/KG)	28.	U/	28.	U/	28.	U/	360.	U/	1600.	U/
gamma-BHC (Lindane) (UG/KG)	28.	U/	28.	U/	28.	U/	360.	U/	1600.	U/
Heptachlor (UG/KG)	28.	U/	28.	U/	28.	U/	360.	U/	1600.	U/
Aldrin (UG/KG)	28.	U/	28.	U/	28.	U/	360.	U/	1600.	U/
Heptachlor epoxide (UG/KG)	28.	U/	28.	U/	28.	U/	360.	U/	1600.	U/
Endosulfan I (UG/KG)	28.	U/	28.	U/	28.	U/	360.	U/	1600.	U/
Dieldrin (UG/KG)	56.	U/	56.	U/	56.	U/	710.	U/	3100.	U/
4,4'-DDE (UG/KG)	56.	U/	56.	U/	56.	U/	710.	U/	3100.	U/
Endrin (UG/KG)	56.	U/	56.	U/	56.	U/	710.	U/	3100.	U/
Endosulfan II (UG/KG)	56.	U/	56.	U/	56.	U/	710.	U/	3100.	U/
4,4'-DDD (UG/KG)	56.	U/	56.	U/	56.	U/	710.	U/	3100.	U/
Endosulfan sulfate (UG/KG)	56.	U/	56.	U/	56.	U/	710.	U/	3100.	U/
4,4'-DDT (UG/KG)	56.	U/	56.	U/	56.	U/	710.	U/	3100.	U/
Methoxychlor (UG/KG)	280.	U/	280.	U/	280.	U/	3600.	U/	16000.	U/
Endrin ketone (UG/KG)	56.	U/	56.	U/	56.	U/	710.	U/	3100.	U/
alpha-Chlordane (UG/KG)	280.	U/	280.	U/	280.	U/	3600.	U/	16000.	U/
gamma-Chlordane (UG/KG)	280.	U/	280.	U/	280.	U/	3600.	U/	16000.	U/
Toxaphene (UG/KG)	560.	U/	560.	U/	560.	U/	7100.	U/	31000.	U/
Aroclor-1016 (UG/KG)	280.	U/	280.	U/	280.	U/	3600.	U/	16000.	U/
Aroclor-1221 (UG/KG)	280.	U/	280.	U/	280.	U/	3600.	U/	16000.	U/
Aroclor-1232 (UG/KG)	280.	U/	280.	U/	280.	U/	3600.	U/	16000.	U/
Aroclor-1242 (UG/KG)	280.	U/	280.	U/	280.	U/	3600.	U/	16000.	U/
Aroclor-1248 (UG/KG)	280.	U/	280.	U/	280.	U/	3600.	U/	16000.	U/
Aroclor-1254 (UG/KG)	560.	U/	560.	U/	560.	U/	7100.	U/	31000.	U/
Aroclor-1260 (UG/KG)	560.	U/	560.	U/	560.	U/	7100.	U/	31000.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SD Type: PPCB

Parameter	WK-SD05-01 09/06/90		WK-SD06-01 09/06/90		WK-SD07-01 09/06/90		WK-SD08-01 09/06/90	
alpha-BHC (UG/KG)	19.	U/	18.	U/	10.	U/	60.	U/
beta-BHC (UG/KG)	19.	U/	18.	U/	10.	U/	60.	U/
delta-BHC (UG/KG)	19.	U/	18.	U/	10.	U/	60.	U/
gamma-BHC (Lindane) (UG/KG)	19.	U/	18.	U/	10.	U/	60.	U/
Heptachlor (UG/KG)	19.	U/	18.	U/	10.	U/	60.	U/
Aldrin (UG/KG)	19.	U/	18.	U/	10.	U/	60.	U/
Heptachlor epoxide (UG/KG)	19.	U/	18.	U/	10.	U/	60.	U/
Endosulfan I (UG/KG)	19.	U/	18.	U/	10.	U/	60.	U/
Dieldrin (UG/KG)	38.	U/	36.	U/	20.	U/	120.	U/
4,4'-DDE (UG/KG)	38.	U/	36.	U/	20.	U/	120.	U/
Endrin (UG/KG)	38.	U/	36.	U/	20.	U/	120.	U/
Endosulfan II (UG/KG)	38.	U/	36.	U/	20.	U/	120.	U/
4,4'-DDD (UG/KG)	38.	U/	36.	U/	20.	U/	120.	U/
Endosulfan sulfate (UG/KG)	38.	U/	36.	U/	20.	U/	120.	U/
4,4'-DDT (UG/KG)	38.	U/	36.	U/	20.	U/	120.	U/
Methoxychlor (UG/KG)	190.	U/	180.	U/	100.	U/	600.	U/
Endrin ketone (UG/KG)	38.	U/	36.	U/	20.	U/	120.	U/
alpha-Chlordane (UG/KG)	190.	U/	180.	U/	100.	U/	600.	U/
gamma-Chlordane (UG/KG)	190.	U/	180.	U/	100.	U/	600.	U/
Toxaphene (UG/KG)	380.	U/	360.	U/	200.	U/	1200.	U/
Aroclor-1016 (UG/KG)	190.	U/	180.	U/	100.	U/	600.	U/
Aroclor-1221 (UG/KG)	190.	U/	180.	U/	100.	U/	600.	U/
Aroclor-1232 (UG/KG)	190.	U/	180.	U/	100.	U/	600.	U/
Aroclor-1242 (UG/KG)	190.	U/	180.	U/	100.	U/	600.	U/
Aroclor-1248 (UG/KG)	190.	U/	180.	U/	100.	U/	600.	U/
Aroclor-1254 (UG/KG)	380.	U/	360.	U/	200.	U/	1200.	U/
Aroclor-1260 (UG/KG)	380.	U/	360.	U/	200.	U/	1200.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SD
Generated by: CAW
Date Issued: 10-MAY-91

WK-SD01-01 09/06/90

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Unknown (UG/KG)	3800.	J/
Aldol (UG/KG)	2800.	AJ/
Aldol (UG/KG)	700.	AJ/
Aldol (UG/KG)	700.	AJ/
Unknown hydrocarbon (UG/KG)	2000.	J/
Unknown hydrocarbon (UG/KG)	930.	J/
9-Octadecene, (E)- (UG/KG)	2600.	J/
Unknown hydrocarbon (UG/KG)	460.	J/
Unknown hydrocarbon (UG/KG)	350.	J/
Unknown (UG/KG)	1400.	J/
Unknown hydrocarbon (UG/KG)	2000.	J/
Heptadecane, 2,6-dimethyl- (UG/KG)	2600.	J/
9-Octadecene, (E)- (UG/KG)	7100.	J/
Unknown hydrocarbon (UG/KG)	1500.	J/
Tetracontane, 3,5,24-trimethyl (UG/KG)	3000.	J/
Unknown hydrocarbon (UG/KG)	1600.	J/
Unknown (UG/KG)	1400.	J/
Unknown (UG/KG)	810.	J/
Unknown (UG/KG)	1000.	J/
Unknown (UG/KG)	1500.	J/
Unknown (UG/KG)	930.	J/
Unknown (UG/KG)	930.	J/

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SD

WK-SD01-91 09/06/90

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Aldol (UG/KG)	2900.	AJ/
Aldol (UG/KG)	2700.	AJ/
Unknown (UG/KG)	2800.	J/
Tribromophenol (UG/KG)	1300.	J/
1-Heptadecanol (UG/KG)	1400.	J/
Unknown hydrocarbon (UG/KG)	1400.	J/
Unknown hydrocarbon (UG/KG)	1600.	J/
Unknown hydrocarbon (UG/KG)	4400.	J/
Unknown hydrocarbon (UG/KG)	2100.	J/
Unknown hydrocarbon (UG/KG)	1200.	J/
Unknown hydrocarbon (UG/KG)	5900.	J/
Unknown hydrocarbon (UG/KG)	1300.	J/
Unknown hydrocarbon (UG/KG)	1600.	J/
Unknown hydrocarbon (UG/KG)	2300.	J/
Iron, tricarbonyl[N-(phenyl- (UG/KG)	4100.	J/
Unknown hydrocarbon (UG/KG)	6500.	J/
Unknown hydrocarbon (UG/KG)	2300.	J/
Unknown hydrocarbon (UG/KG)	2400.	J/
Pentacosane (UG/KG)	3800.	J/
Unknown hydrocarbon (UG/KG)	3600.	J/
Unknown hydrocarbon (UG/KG)	2200.	J/
Unknown hydrocarbon (UG/KG)	5700.	J/

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SO

WK-SD02-01 09/06/90

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Unknown (UG/KG)	1200.	J/
Aldol (UG/KG)	6100.	AJ/
Aldol (UG/KG)	4100.	AJ/
Aldol (UG/KG)	700.	AJ/
Unknown subst. hydrocarbon (UG/KG)	1600.	J/
Unknown hydrocarbon (UG/KG)	1500.	J/
Unknown hydrocarbon (UG/KG)	5100.	J/
Unknown hydrocarbon (UG/KG)	1000.	J/
Unknown hydrocarbon (UG/KG)	3600.	J/
Unknown (UG/KG)	930.	J/
Unknown hydrocarbon (UG/KG)	1200.	J/
Unknown hydrocarbon (UG/KG)	2300.	J/
Unknown hydrocarbon (UG/KG)	1400.	J/
Pentacosane (UG/KG)	1600.	J/
Unknown hydrocarbon (UG/KG)	2600.	J/
Unknown (UG/KG)	3000.	J/
Unknown hydrocarbon (UG/KG)	3500.	J/
Pentacosane (UG/KG)	6900.	J/
Unknown hydrocarbon (UG/KG)	12000.	J/
Pentacosane (UG/KG)	12000.	J/
Unknown (UG/KG)	5400.	J/
Unknown (UG/KG)	7700.	J/
Unknown (UG/KG)	13000.	J/

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SD

WK-SD03-01 09/06/90

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Unknown (UG/KG)	1300.	J/
Aldol (UG/KG)	6500.	AJ/
Aldol (UG/KG)	2500.	AJ/
Aldol (UG/KG)	3100.	AJ/
Unknown (UG/KG)	1500.	J/
Dimethylheptadecane (UG/KG)	890.	J/
Hexanedioic acid, mono(2-ethyl (UG/KG)	740.	J/
Dimethylheptadecane (UG/KG)	1200.	J/
Dimethylheptadecane (UG/KG)	1600.	J/
Unknown (UG/KG)	890.	J/
Unknown (UG/KG)	2700.	J/
Unknown (UG/KG)	1300.	J/
Unknown (UG/KG)	4500.	J/
Dimethylheptadecane (UG/KG)	4600.	J/
Unknown (UG/KG)	1800.	J/
Unknown (UG/KG)	6400.	J/
Unknown (UG/KG)	890.	J/
Unknown (UG/KG)	2800.	J/
Octacosane (UG/KG)	1800.	J/
Unknown (UG/KG)	1500.	J/
Unknown (UG/KG)	2400.	J/

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SD

WK-SD04-01 09/06/90

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Aldol (UG/KG)	1300.	AJ/
Aldol (UG/KG)	2300.	AJ/
Aldol (UG/KG)	460.	AJ/
Heptadecane (UG/KG)	650.	J/
Sulfur + unknown (UG/KG)	10000.	J/
Unknown hydrocarbon (UG/KG)	330.	J/
Hexanedioic acid, mono(2-ethyl (UG/KG)	390.	J/
Dimethylheptadecane (UG/KG)	520.	J/
Unknown (UG/KG)	330.	J/
Unknown hydrocarbon (UG/KG)	2000.	J/
Unknown (UG/KG)	650.	J/
Unknown (UG/KG)	650.	J/
Unknown (UG/KG)	5500.	J/
Unknown hydrocarbon (UG/KG)	3700.	J/
Unknown (UG/KG)	2300.	J/
Unknown (UG/KG)	910.	J/
Unknown (UG/KG)	3100.	J/
Unknown (UG/KG)	1200.	J/
Dimethylheptadecane (UG/KG)	850.	J/
Unknown (UG/KG)	1300.	J/
Unknown (UG/KG)	1200.	J/
Unknown (UG/KG)	2300.	J/
Unknown (UG/KG)	1000.	J/

WK-SD05-01 09/06/90

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Unknown (UG/KG)	2200.	J/
Aldol (UG/KG)	1500.	AJ/
Aldol (UG/KG)	1400.	AJ/
Unknown (UG/KG)	2000.	J/
Unknown (UG/KG)	690.	J/
Unknown (UG/KG)	390.	J/
Unknown (UG/KG)	310.	J/
Unknown (UG/KG)	460.	J/
Dimethylheptadecane (UG/KG)	770.	J/

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SD

WK-SD06-01 09/06/90

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Aldol (UG/KG)	1200.	AJ/
Aldol (UG/KG)	1400.	AJ/
Aldol (UG/KG)	370.	AJ/
Fluorophenol (UG/KG)	600.	J/
Unknown (UG/KG)	370.	J/
Unknown hydrocarbon (UG/KG)	300.	J/
Unknown (UG/KG)	1200.	J/
Unknown aldehyde (UG/KG)	370.	J/
Unknown hydrocarbon (UG/KG)	670.	J/
Unknown (UG/KG)	1800.	J/
Unknown (UG/KG)	890.	J/
Unknown aldehyde (UG/KG)	3200.	J/
Unknown hydrocarbon (UG/KG)	1900.	J/
Unknown (UG/KG)	7400.	J/
Unknown (UG/KG)	520.	J/
Unknown aldehyde (UG/KG)	1700.	J/
Unknown hydrocarbon (UG/KG)	1500.	J/
Unknown (UG/KG)	1900.	J/
Vitamin E acetate + unknown (UG/KG)	890.	J/
Unknown aldehyde (UG/KG)	820.	J/
Unknown (UG/KG)	1800.	J/
Unknown (UG/KG)	890.	J/
Unknown (UG/KG)	1900.	J/

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SD

WK-SD07-01 09/06/90

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Aldol (UG/KG)	1300.	AJ/
Aldol (UG/KG)	730.	AJ/
Aldol (UG/KG)	340.	AJ/
Aldol (UG/KG)	210.	AJ/
Aldol (UG/KG)	510.	AJ/
1-Decanol, 2-ethyl- (UG/KG)	430.	J/
17-Pentatriacontene (UG/KG)	730.	J/
Unknown hydrocarbon (UG/KG)	170.	J/
Unknown (UG/KG)	170.	J/
Unknown hydrocarbon (UG/KG)	390.	J/
Dodecane, 1-iodo- (UG/KG)	560.	J/
Unknown hydrocarbon (UG/KG)	1200.	J/
Unknown hydrocarbon (UG/KG)	300.	J/
Unknown (UG/KG)	510.	J/
Unknown hydrocarbon (UG/KG)	210.	J/
Unknown hydrocarbon (UG/KG)	4300.	J/
Unknown hydrocarbon (UG/KG)	300.	J/
Unknown (UG/KG)	300.	J/
Unknown (UG/KG)	1800.	J/

WK-SD08-01 09/06/90

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Aldol (UG/KG)	14000.	AJ/
Heptadecane, 2,6-dimethyl- (UG/KG)	4500.	J/
Unknown hydrocarbon (UG/KG)	4500.	J/
Unknown (UG/KG)	5200.	J/
Unknown hydrocarbon (UG/KG)	6000.	J/
Heptadecane, 2,6-dimethyl- (UG/KG)	37000.	J/
Unknown hydrocarbon (UG/KG)	20000.	J/
Unknown hydrocarbon (UG/KG)	3000.	J/
Octacosane (UG/KG)	16000.	J/
Vitamin E acetate (VAN) (UG/KG)	19000.	J/
Unknown hydrocarbon (UG/KG)	13000.	J/
Unknown hydrocarbon (UG/KG)	9000.	J/
Unknown (UG/KG)	8200.	J/
Unknown (UG/KG)	58000.	J/

SURFACE WATER

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SW Type: IND MTL
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-SW01-01 11/20/90		WK-SW01-91 11/20/90		WK-SW10-01 04/02/91		WK-SW10-91 04/02/91		WK-SW11-01 04/03/91	
Aluminum (UG/L)	50.	U/	50.	U/	76.	K/	83.5	K/	87.	K/
Antimony (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
Arsenic (UG/L)	2.4	KNS/J	2.	UN/UJ	2.	U/	2.	U/	2.	U/
Barium (UG/L)	222.	/	195.	K/	48.5	K/	48.	K/	67.5	K/
Beryllium (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Cadmium (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Calcium (UG/L)	199000.	/	189000.	/	79000.	/	79600.	/	86700.	/
Chromium, total (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Cobalt (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Copper (UG/L)	14.	K/	12.	K/	10.	U/	10.	U/	10.	U/
Iron (UG/L)	32200.	/	28000.	/	432.	/	396.	/	1190.	/
Lead (UG/L)	4.6	S*/J	5.3	S*/J	3.	U/	3.	U/	3.	U/
Magnesium (UG/L)	126000.	/	126000.	/	31600.	/	31000.	/	46300.	/
Manganese (UG/L)	615.	/	641.	/	54.5	/	52.	/	86.5	/
Mercury (UG/L)	0.2	U/	0.2	U/	0.2	U/	0.2	U/	0.2	U/
Nickel (UG/L)	121.	/	141.	/	20.	U/	20.	U/	20.	U/
Potassium (UG/L)	16000.	/	15700.	/	1220.	K/	1220.	K/	10100.	/
Selenium (UG/L)	2.	U/	2.	US/	2.	U/	2.	U/	2.	U/
Silver (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Sodium (UG/L)	63400.	/	60400.	/	28900.	/	30200.	/	35100.	/
Thallium (UG/L)	3.	U/	3.	U/	3.	U/	3.	U/	3.	U/
Vanadium (UG/L)	50.	U/	50.	U/	50.	U/	50.	U/	50.	U/
Zinc (UG/L)	264.	/	225.	/	10.	U/	10.	U/	181.	/
Cyanide (UG/L)	10.	U/	10.	U/						
Alkalinity, Total (MG/L)					234.	/	234.	/	368.	/
Chloride (MG/L)					70.	/	69.	/	67.	/
Nitrate+Nitrite Nitrogen (MG/L)					4.33	/	4.23	/	3.2	/
Nitrogen, Ammonia (MG/L)					0.21	/	0.24	/	1.51	/
Nitrogen, Total Kjeldahl (MG/L)					1.82	N/J	1.93	N/J	3.48	N/J
Phosphorus, Total (MG/L)					0.03	/	0.03	/	0.04	/
Sulfate (MG/L)					74.	/	67.	/	70.	/
Total Dissolved Solids (MG/L)					506.	/	478.	/	600.	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

SW Type: IND MTL

er	WK-SW12-01 04/03/91		WK-SWFB01-01 11/20/90		WK-SWFB10-01 04/03/91	
im (UG/L)	89.	K/	50.	U/	50.	U/
ny (UG/L)	50.	U/	50.	U/	50.	U/
c (UG/L)	2.	U/	2.	UN/UJ	2.	U/
n (UG/L)	73.5	K/	10.	U/	10.	U/
lium (UG/L)	5.	U/	5.	U/	5.	U/
um (UG/L)	5.	U/	5.	U/	5.	U/
um (UG/L)	99200.	/	1000.	U/	1000.	U/
nium, total (UG/L)	10.	U/	10.	U/	10.	U/
lt (UG/L)	10.	U/	10.	U/	10.	U/
per (UG/L)	10.	U/	10.	U/	10.	U/
n (UG/L)	986.	/	20.	U/	20.	U/
d (UG/L)	3.	U/	3.	U*/UJ	3.	U/
nesium (UG/L)	58100.	/	1000.	U/	1000.	U/
ganese (UG/L)	64.	/	10.	U/	10.	U/
cury (UG/L)	0.2	U/	0.2	U/	0.2	U/
ckel (UG/L)	20.	U/	20.	K/U	20.	U/
tassium (UG/L)	9920.	/	100.	U/	100.	U/
lenium (UG/L)	2.	US/	2.	U/	2.	U/
lver (UG/L)	10.	U/	10.	U/	10.	U/
dium (UG/L)	38500.	/	2000.	U/	2000.	U/
hallium (UG/L)	3.	U/	3.	U/	3.	U/
anadium (UG/L)	50.	U/	50.	U/	50.	U/
Zinc (UG/L)	90.	/	10.	U/	10.	U/
Cyanide (UG/L)			10.	U/	5.	U/
Alkalinity, Total (MG/L)	432.	/			1.	U/
Chloride (MG/L)	64.	/			0.02	U/
Nitrate+Nitrite Nitrogen (MG/L)	2.51	/			0.1	U/
Nitrogen, Ammonia (MG/L)	1.6	/			0.13	N/J
Nitrogen, Total Kjeldahl (MG/L)	3.44	N/J			0.02	U/
Phosphorus, Total (MG/L)	0.04	/			5.	U/
Sulfate (MG/L)	69.	/			20.	U/
Total Dissolved Solids (MG/L)	652.	/				

...fiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SW Type: SVOC
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-SW01-01 11/20/90		WK-SW01-91 11/20/90		WK-SWFB01-01 11/20/90	
Phenol (UG/L)	10.	U/	10.	U/	10.	U/
bis(2-Chloroethyl) ether (UG/L)	10.	U/	10.	U/	10.	U/
2-Chlorophenol (UG/L)	10.	U/	10.	U/	10.	U/
1,3-Dichlorobenzene (UG/L)	10.	U/	10.	U/	10.	U/
1,4-Dichlorobenzene (UG/L)	10.	U/	10.	U/	10.	U/
Benzyl Alcohol (UG/L)	10.	U/	10.	U/	10.	U/
1,2-Dichlorobenzene (UG/L)	10.	U/	10.	U/	10.	U/
2-Methylphenol (UG/L)	10.	U/	10.	U/	10.	U/
bis(2-Chloroisopropyl)ether (UG/L)	10.	U/	10.	U/	10.	U/
4-Methylphenol (UG/L)	10.	U/	10.	U/	10.	U/
N-Nitroso-di-n-dipropylamine (UG/L)	10.	U/	10.	U/	10.	U/
Hexachloroethane (UG/L)	10.	U/	10.	U/	10.	U/
Nitrobenzene (UG/L)	10.	U/	10.	U/	10.	U/
Isophorone (UG/L)	10.	U/	10.	U/	10.	U/
2-Nitrophenol (UG/L)	10.	U/	10.	U/	10.	U/
2,4-Dimethylphenol (UG/L)	10.	U/	10.	U/	10.	U/
Benzoic Acid (UG/L)	50.	U/	50.	U/	50.	U/
bis(2-Chloroethoxy)methane (UG/L)	10.	U/	10.	U/	10.	U/
2,4-Dichlorophenol (UG/L)	10.	U/	10.	U/	10.	U/
1,2,4-Trichlorobenzene (UG/L)	10.	U/	10.	U/	10.	U/
Naphthalene (UG/L)	10.	U/	10.	U/	10.	U/
4-Chloroaniline (UG/L)	10.	U/	10.	U/	10.	U/
Hexachlorobutadiene (UG/L)	10.	U/	10.	U/	10.	U/
4-Chloro-3-methylphenol (UG/L)	10.	U/	10.	U/	10.	U/
2-Methylnaphthalene (UG/L)	10.	U/	10.	U/	10.	U/
Hexachlorocyclopentadiene (UG/L)	10.	U/	10.	U/	10.	U/
2,4,6-Trichlorophenol (UG/L)	10.	U/	10.	U/	10.	U/
2,4,5-Trichlorophenol (UG/L)	50.	U/	50.	U/	50.	U/
2-Chloronaphthalene (UG/L)	10.	U/	10.	U/	10.	U/
2-Nitroaniline (UG/L)	50.	U/	50.	U/	50.	U/
Dimethylphthalate (UG/L)	10.	U/	10.	U/	10.	U/
Acenaphthylene (UG/L)	10.	U/	10.	U/	10.	U/
2,6-Dinitrotoluene (UG/L)	10.	U/	10.	U/	10.	U/
3-Nitroaniline (UG/L)	50.	U/	50.	U/	50.	U/
Acenaphthene (UG/L)	10.	U/	10.	U/	10.	U/
2,4-Dinitrophenol (UG/L)	50.	U/	50.	U/	50.	U/
4-Nitrophenol (UG/L)	50.	U/	50.	U/	50.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SW Type: SVOC

Parameter	WK-SW01-01 11/20/90		WK-SW01-91 11/20/90		WK-SWFB01-01 11/20/90	
Dibenzofuran (UG/L)	10.	U/	10.	U/	10.	U/
2,4-Dinitrotoluene (UG/L)	10.	U/	10.	U/	10.	U/
Diethylphthalate (UG/L)	10.	U/	10.	U/	10.	U/
4-Chlorophenyl-phenylether (UG/L)	10.	U/	10.	U/	10.	U/
Fluorene (UG/L)	10.	U/	10.	U/	10.	U/
4-Nitroaniline (UG/L)	50.	U/	50.	U/	50.	U/
4,6-Dinitro-2-methylphenol (UG/L)	50.	U/	50.	U/	50.	U/
N-nitrosodiphenylamine (UG/L)	10.	U/	10.	U/	10.	U/
4-Bromophenyl-phenylether (UG/L)	10.	U/	10.	U/	10.	U/
Hexachlorobenzene (UG/L)	10.	U/	10.	U/	10.	U/
Pentachlorophenol (UG/L)	50.	U/	50.	U/	50.	U/
Phenanthrene (UG/L)	10.	U/	10.	U/	10.	U/
Anthracene (UG/L)	10.	U/	10.	U/	10.	U/
Di-n-butylphthalate (UG/L)	10.	U/	10.	U/	10.	U/
Fluoranthene (UG/L)	10.	U/	10.	U/	10.	U/
Pyrene (UG/L)	10.	U/	10.	U/	10.	U/
Butylbenzylphthalate (UG/L)	10.	U/	10.	U/	10.	U/
3,3'-Dichlorobenzidine (UG/L)	20.	U/	20.	U/	20.	U/
Benzo(a)anthracene (UG/L)	10.	U/	10.	U/	10.	U/
Chrysene (UG/L)	10.	U/	10.	U/	10.	U/
bis(2-ethylhexyl)phthalate (UG/L)	24.	B/UJ	39.	B/UJ	5.	BJ/
Di-n-octyl Phthalate (UG/L)	10.	U/	10.	U/	10.	U/
Benzo(b)fluoranthene (UG/L)	10.	U/	10.	U/	10.	U/
Benzo(k)fluoranthene (UG/L)	10.	U/	10.	U/	10.	U/
Benzo(a)pyrene (UG/L)	10.	U/	10.	U/	10.	U/
Indeno(1,2,3-cd)pyrene (UG/L)	10.	U/	10.	U/	10.	U/
Dibenz(a,h)anthracene (UG/L)	10.	U/	10.	U/	10.	U/
Benzo(g,h,i)perylene (UG/L)	10.	U/	10.	U/	10.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SW Type: VOC
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-SW01-01 11/20/90		WK-SW01-91 11/20/90		WK-SWFB01-01 11/20/90		WK-SWTB01-01 11/20/90	
Chloromethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/
Bromomethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/
Vinyl chloride (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/
Chloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/
Methylene chloride (UG/L)	5.	U/	5.	U/	9.	U/	9.	U/
Acetone (UG/L)	10.	U/UJ	10.	U/UJ	11.	B/UJ	10.	U/UJ
Carbon disulfide (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethene (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Chloroform (UG/L)	5.	U/	5.	U/	2.	J/	1.	J/
1,2-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
2-Butanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/
1,1,1-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Carbon tetrachloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Vinyl acetate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/
Bromodichloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloropropane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
cis-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Trichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Dibromochloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Benzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
trans-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Bromoform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
4-Methyl-2-pentanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/
2-Hexanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/
Tetrachloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Toluene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Chlorobenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Ethylbenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Xylenes (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

TEST PITS

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SW Type: VOC
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-SW01-01 11/20/90		WK-SW01-91 11/20/90		WK-SWFB01-01 11/20/90		WK-SWTB01-01 11/20/90	
Chloromethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/
Bromomethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/
Vinyl chloride (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/
Chloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/
Methylene chloride (UG/L)	5.	U/	5.	U/	9.	U/	9.	U/
Acetone (UG/L)	10.	U/UJ	10.	U/UJ	11.	B/UJ	10.	U/UJ
Carbon disulfide (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethene (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Chloroform (UG/L)	5.	U/	5.	U/	2.	J/	1.	J/
1,2-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
2-Butanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/
1,1,1-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Carbon tetrachloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Vinyl acetate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/
Bromodichloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloropropane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
cis-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Trichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Dibromochloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Benzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
trans-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Bromoform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
4-Methyl-2-pentanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/
2-Hexanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/
Tetrachloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Toluene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Chlorobenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Ethylbenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/
Xylenes (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: TP Type: VOC
Generated by: CAW
Date Issued: 02-OCT-91

Parameter	WK-TP03-06 07/24/91		WK-TP03-06DUP 07/24/91	
Chloromethane (UG/KG)	1600000.	U/	1600000.	U/
Bromomethane (UG/KG)	1600000.	U/	1600000.	U/
Vinyl chloride (UG/KG)	1600000.	U/	1600000.	U/
Chloroethane (UG/KG)	1600000.	U/	1600000.	U/
Methylene chloride (UG/KG)	780000.	U/	780000.	U/
Acetone (UG/KG)	17000000.	D/J	73000000.	E/J
Carbon disulfide (UG/KG)	780000.	U/	780000.	U/
1,1-Dichloroethene (UG/KG)	780000.	U/	780000.	U/
1,1-Dichloroethane (UG/KG)	780000.	U/	780000.	U/
1,2-Dichloroethene (total) (UG/KG)	780000.	U/	780000.	U/
Chloroform (UG/KG)	780000.	U/	780000.	U/
1,2-Dichloroethane (UG/KG)	780000.	U/	780000.	U/
2-Butanone (UG/KG)	1600000.	U/	1600000.	U/
1,1,1-Trichloroethane (UG/KG)	780000.	U/	780000.	U/
Carbon tetrachloride (UG/KG)	780000.	U/	780000.	U/
Vinyl acetate (UG/KG)	1600000.	U/	1600000.	U/
Bromodichloromethane (UG/KG)	780000.	U/	780000.	U/
1,2-Dichloropropane (UG/KG)	780000.	U/	780000.	U/
cis-1,3-Dichloropropene (UG/KG)	780000.	U/	780000.	U/
Trichloroethene (UG/KG)	780000.	U/	780000.	U/
Dibromochloromethane (UG/KG)	780000.	U/	780000.	U/
1,1,2-Trichloroethane (UG/KG)	780000.	U/	780000.	U/
Benzene (UG/KG)	780000.	U/	780000.	U/
trans-1,3-Dichloropropene (UG/KG)	780000.	U/	780000.	U/
Bromoform (UG/KG)	780000.	U/	780000.	U/
4-Methyl-2-pentanone (UG/KG)	3800000.	D/J	15000000.	/J
2-Hexanone (UG/KG)	1600000.	U/	1600000.	U/
Tetrachloroethene (UG/KG)	780000.	U/	780000.	U/
1,1,2,2-Tetrachloroethane (UG/KG)	1600000.	U/	1600000.	U/
Toluene (UG/KG)	22000000.	D/J	87000000.	E/J
Chlorobenzene (UG/KG)	780000.	U/	780000.	U/
Ethylbenzene (UG/KG)	780000.	U/	340000.	J/J
Styrene (UG/KG)	780000.	U/	780000.	U/
Xylenes (total) (UG/KG)	310000.	DJ/J	1400000.	/J

Note: (1) Results are reported with qualifiers (Laborato Qualifier/Data Validation Qualifier) to right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: TP Type: SVOC
Generated by: CAW
Date Issued: 02-OCT-91

Parameter	WK-TP03-06 07/24/91		WK-TP03-06DUP 07/24/91	
Phenol (UG/KG)	100000.	U/UJ	300000.	U/UJ
bis(2-Chloroethyl) ether (UG/KG)	100000.	U/UJ	300000.	U/UJ
2-Chlorophenol (UG/KG)	100000.	U/UJ	300000.	U/UJ
1,3-Dichlorobenzene (UG/KG)	100000.	U/UJ	300000.	U/UJ
1,4-Dichlorobenzene (UG/KG)	100000.	U/UJ	300000.	U/UJ
Benzyl alcohol (UG/KG)	21000.	J/J	300000.	U/UJ
1,2-Dichlorobenzene (UG/KG)	12000.	J/J	300000.	U/UJ
2-Methylphenol (UG/KG)	100000.	U/UJ	300000.	U/UJ
bis(2-Chloroisopropyl)ether (UG/KG)	100000.	U/UJ	300000.	U/UJ
4-Methylphenol (UG/KG)	100000.	U/UJ	300000.	U/UJ
N-Nitroso-di-n-dipropylamine (UG/KG)	100000.	U/UJ	300000.	U/UJ
Hexachloroethane (UG/KG)	100000.	U/UJ	300000.	U/UJ
Nitrobenzene (UG/KG)	100000.	U/UJ	300000.	U/UJ
Isophorone (UG/KG)	6000000.	E/J	4600000.	/J
2-Nitrophenol (UG/KG)	100000.	U/UJ	300000.	U/UJ
2,4-Dimethylphenol (UG/KG)	100000.	U/UJ	300000.	U/UJ
Benzoic acid (UG/KG)	500000.	U/UJ	1500000.	U/UJ
bis(2-Chloroethoxy)methane (UG/KG)	100000.	U/UJ	300000.	U/UJ
2,4-Dichlorophenol (UG/KG)	100000.	U/UJ	300000.	U/UJ
1,2,4-Trichlorobenzene (UG/KG)	100000.	U/UJ	300000.	U/UJ
Naphthalene (UG/KG)	100000.	U/UJ	300000.	U/UJ
4-Chloroaniline (UG/KG)	100000.	U/UJ	300000.	U/UJ
Hexachlorobutadiene (UG/KG)	100000.	U/UJ	300000.	U/UJ
4-Chloro-3-methylphenol (UG/KG)	100000.	U/UJ	300000.	U/UJ
2-Methylnaphthalene (UG/KG)	100000.	U/UJ	300000.	U/UJ
Hexachlorocyclopentadiene (UG/KG)	100000.	U/UJ	300000.	U/UJ
2,4,6-Trichlorophenol (UG/KG)	100000.	U/UJ	300000.	U/UJ
2,4,5-Trichlorophenol (UG/KG)	500000.	U/UJ	1500000.	U/UJ
2-Chloronaphthalene (UG/KG)	100000.	U/UJ	300000.	U/UJ
2-Nitroaniline (UG/KG)	500000.	U/UJ	1500000.	U/UJ
Dimethylphthalate (UG/KG)	100000.	U/UJ	300000.	U/UJ
Acenaphthylene (UG/KG)	100000.	U/UJ	300000.	U/UJ
2,6-Dinitrotoluene (UG/KG)	100000.	U/UJ	300000.	U/UJ
3-Nitroaniline (UG/KG)	500000.	U/UJ	1500000.	U/UJ
Acenaphthene (UG/KG)	100000.	U/UJ	300000.	U/UJ
2,4-Dinitrophenol (UG/KG)	500000.	U/UJ	1500000.	U/UJ
4-Nitrophenol (UG/KG)	500000.	U/UJ	1500000.	U/UJ

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: TP Type: SVOC

Parameter	WK-TP03-06 07/24/91		WK-TP03-06DUP 07/24/91	
Dibenzofuran (UG/KG)	100000.	U/UJ	300000.	U/UJ
2,4-Dinitrotoluene (UG/KG)	100000.	U/UJ	300000.	U/UJ
Diethylphthalate (UG/KG)	100000.	U/UJ	300000.	U/UJ
4-Chlorophenyl-phenylether (UG/KG)	100000.	U/UJ	300000.	U/UJ
Fluorene (UG/KG)	100000.	U/UJ	300000.	U/UJ
4-Nitroaniline (UG/KG)	500000.	U/UJ	1500000.	U/UJ
4,6-Dinitro-2-methylphenol (UG/KG)	500000.	U/UJ	1500000.	U/UJ
N-nitrosodiphenylamine (UG/KG)	100000.	U/UJ	300000.	U/UJ
4-Bromophenyl-phenylether (UG/KG)	100000.	U/UJ	300000.	U/UJ
Hexachlorobenzene (UG/KG)	100000.	U/UJ	300000.	U/UJ
Pentachlorophenol (UG/KG)	500000.	U/UJ	1500000.	U/UJ
Phenanthrene (UG/KG)	100000.	U/UJ	300000.	U/UJ
Anthracene (UG/KG)	100000.	U/UJ	300000.	U/UJ
Di-n-butylphthalate (UG/KG)	100000.	U/UJ	120000.	J/J
Fluoranthene (UG/KG)	100000.	U/UJ	300000.	U/UJ
Pyrene (UG/KG)	100000.	U/UJ	300000.	U/UJ
Butylbenzylphthalate (UG/KG)	100000.	U/UJ	300000.	U/UJ
3,3'-Dichlorobenzidine (UG/KG)	200000.	U/UJ	600000.	U/UJ
Benzo(a)anthracene (UG/KG)	100000.	U/UJ	300000.	U/UJ
Chrysene (UG/KG)	100000.	U/UJ	300000.	U/UJ
bis(2-ethylhexyl)phthalate (UG/KG)	250000.	J/J	76000.	J/J
Di-n-octyl Phthalate (UG/KG)	100000.	U/UJ	300000.	U/UJ
Benzo(b)fluoranthene (UG/KG)	100000.	U/UJ	300000.	U/UJ
Benzo(k)fluoranthene (UG/KG)	100000.	U/UJ	300000.	U/UJ
Benzo(a)pyrene (UG/KG)	100000.	U/UJ	300000.	U/UJ
Indeno(1,2,3-cd)pyrene (UG/KG)	100000.	U/UJ	300000.	U/UJ
Dibenz(a,h)anthracene (UG/KG)	100000.	U/UJ	300000.	U/UJ
Benzo(g,h,i)perylene (UG/KG)	100000.	U/UJ	300000.	U/UJ

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: TP Type: PPCB
Generated by: CAW
Date Issued: 02-OCT-91

Parameter,	WK-TP03-06 07/24/91		WK-TP03-06DUP 07/24/91	
alpha-BHC (MG/KG)	12.	U/UJ	10.	U/UJ
beta-BHC (MG/KG)	12.	U/UJ	10.	U/UJ
delta-BHC (MG/KG)	12.	U/UJ	10.	U/UJ
gamma-BHC (Lindane) (MG/KG)	12.	U/UJ	10.	U/UJ
Heptachlor (MG/KG)	12.	U/UJ	10.	U/UJ
Aldrin (MG/KG)	12.	U/UJ	10.	U/UJ
Heptachlor epoxide (MG/KG)	12.	U/UJ	10.	U/UJ
Endosulfan I (MG/KG)	12.	U/UJ	10.	U/UJ
Dieldrin (MG/KG)	24.	U/UJ	20.	U/UJ
4,4'-DDE (MG/KG)	24.	U/UJ	20.	U/UJ
Endrin (MG/KG)	24.	U/UJ	20.	U/UJ
Endosulfan II (MG/KG)	24.	U/UJ	20.	U/UJ
4,4'-DDD (MG/KG)	24.	U/UJ	20.	U/UJ
Endosulfan sulfate (MG/KG)	24.	U/UJ	20.	U/UJ
4,4'-DDT (MG/KG)	24.	U/UJ	20.	U/UJ
Methoxychlor (MG/KG)	160.	U/UJ	130.	U/UJ
Endrin ketone (MG/KG)	24.	U/UJ	20.	U/UJ
alpha-Chlordane (MG/KG)	120.	U/UJ	100.	U/UJ
gamma-Chlordane (MG/KG)	120.	U/UJ	100.	U/UJ
Toxaphene (MG/KG)	240.	U/UJ	200.	U/UJ
Aroclor-1016 (MG/KG)	120.	U/UJ	100.	U/UJ
Aroclor-1221 (MG/KG)	120.	U/UJ	100.	U/UJ
Aroclor-1232 (MG/KG)	120.	U/UJ	100.	U/UJ
Aroclor-1242 (MG/KG)	120.	U/UJ	100.	U/UJ
Aroclor-1248 (MG/KG)	120.	U/UJ	100.	U/UJ
Aroclor-1254 (MG/KG)	140000.	C/J	120000.	C/J
Aroclor-1260 (MG/KG)	240.	U/UJ	200.	U/UJ

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: TP Type: SLIND MTL
Generated by: CAW
Date Issued: 02-OCT-91

Parameter	WK-TP03-06 07/24/91		WK-TP03-06DUP 07/24/91	
Aluminum (MG/KG)	31.3	U/	31.2	U/
Antimony (MG/KG)	31.3	U/	31.2	U/
Arsenic (MG/KG)	1.3	U/	1.2	U/
Barium (MG/KG)	6.3	U/	6.2	U/
Beryllium (MG/KG)	3.1	U/	3.1	U/
Cadmium (MG/KG)	3.1	U/	3.1	U/
Calcium (MG/KG)	626.	U/	624.	U/
Chromium, total (MG/KG)	6.3	U/	6.2	U/
Cobalt (MG/KG)	6.3	U/	6.2	U/
Copper (MG/KG)	6.3	U/	6.2	U/
Iron (MG/KG)	20.	K/	29.3	K/
Lead (MG/KG)	1.9	U/	1.9	U/
Magnesium (MG/KG)	626.	U/	624.	U/
Manganese (MG/KG)	6.3	U/	6.2	U/
Mercury (MG/KG)	0.15	*/	0.12	U*/
Nickel (MG/KG)	12.5	U/	12.5	U/
Potassium (MG/KG)	62.6	U/	62.4	U/
Selenium (MG/KG)	1.3	U/	1.2	U/
Silver (MG/KG)	6.3	U/	6.2	U/
Sodium (MG/KG)	1250.	U/	1250.	U/
Thallium (MG/KG)	1.9	U/	1.9	U/
Vanadium (MG/KG)	31.3	U/	31.2	U/
Zinc (MG/KG)	6.3	U/	6.2	U/
Cyanide (MG/KG)	7.9	U/	7.8	U/
Total Solids (%)	31.7	/	32.	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: TP
Generated by: CAW
Date Issued: 02-OCT-91

UK-TP03-06 07/24/91

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
3-Cyclohexene-1-methanol, .alp (UG/KG)	1600000.	J/JN
PCB (UG/KG)	5000000.	J/JN
PCB (UG/KG)	1800000.	J/JN
PCB (UG/KG)	2900000.	J/JN
PCB (UG/KG)	4100000.	J/JN
PCB (UG/KG)	7200000.	J/JN
PCB (UG/KG)	1400000.	J/JN
PCB (UG/KG)	3500000.	J/JN
PCB (UG/KG)	4400000.	J/JN
PCB (UG/KG)	1600000.	J/JN
PCB (UG/KG)	5100000.	J/JN
PCB (UG/KG)	1900000.	J/JN
PCB (UG/KG)	2400000.	J/JN
PCB (UG/KG)	3700000.	J/JN
Methylphenylester (UG/KG)	1700000.	J/JN
Unknown (UG/KG)	2400000.	J/JN
Unknown (UG/KG)	2900000.	J/JN
Unknown (UG/KG)	3400000.	J/JN
Unknown (UG/KG)	3100000.	J/JN
Unknown (UG/KG)	2300000.	J/JN

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: TP

WK-TP03-060UP 07/24/91

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
PCB (UG/KG)	3000000.	J/JN
PCB (UG/KG)	960000.	J/JN
PCB (UG/KG)	1500000.	J/JN
PCB (UG/KG)	3000000.	J/JN
PCB (UG/KG)	8100000.	J/JN
PCB (UG/KG)	2000000.	J/JN
PCB (UG/KG)	1400000.	J/JN
PCB (UG/KG)	3600000.	J/JN
PCB (UG/KG)	5100000.	J/JN
PCB (UG/KG)	1200000.	J/JN
PCB (UG/KG)	5700000.	J/JN
PCB (UG/KG)	1800000.	J/JN
PCB (UG/KG)	2500000.	J/JN
PCB (UG/KG)	3600000.	J/JN
Tris(methylphenyl)esterphospho (UG/KG)	1300000.	J/JN
Unknown (UG/KG)	1900000.	J/JN
Unknown (UG/KG)	2300000.	J/JN
Unknown (UG/KG)	2900000.	J/JN
Unknown (UG/KG)	1700000.	J/JN
Unknown (UG/KG)	1000000.	J/JN

SURFACE SOIL

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SS Type: SLIND HTL
Generated by: CAW
Date Issued: 01-OCT-91

Parameter	WK-SS01-01 08/08/91		WK-SS02-01 08/08/91		WK-SS02-91 08/08/91		WK-SS03-01 08/08/91		WK-SS04-01 08/08/91	
Aluminum (MG/KG)	10500.	/	4320.	/	4340.	/	17000.	/	6610.	/
Antimony (MG/KG)	12.	UN/UJ	11.4	UN/UJ	11.5	UN/UJ	10.8	UN/UJ	8.8	UN/UJ
Arsenic (MG/KG)	3.9	S/	4.8	S/	3.8	S/	5.1	S/	3.3	S/
Barium (MG/KG)	209.	/	45.6	K/	40.4	K/	412.	/	64.4	/
Beryllium (MG/KG)	1.2	U/	1.1	U/	1.1	U/	1.1	U/	0.88	U/
Cadmium (MG/KG)	1.3	/	1.1	U/	1.1	U/	2.3	/	0.88	U/
Calcium (MG/KG)	51900.	/	68700.	/	39000.	/	47600.	/	57000.	/
Chromium, total (MG/KG)	75.1	/	5.8	/	7.	/	63.1	/	9.8	/
Cobalt (MG/KG)	3.4	K/	2.9	K/	3.4	K/	6.4	K/	4.7	K/
Copper (MG/KG)	283.	/	17.1	/	16.7	/	589.	/	18.2	/
Iron (MG/KG)	18400.	/	12100.	/	11100.	/	24400.	/	12200.	/
Lead (MG/KG)	44.9	*/J	28.2	*/J	19.9	*/J	73.6	S*/J	17.4	*/J
Magnesium (MG/KG)	24900.	/	34000.	/	18800.	/	18900.	/	30300.	/
Manganese (MG/KG)	395.	/	445.	/	280.	/	793.	/	447.	/
Mercury (MG/KG)	2.2	*/J	0.12	*/J	0.09	*/J	1.9	*/J	0.07	*/J
Nickel (MG/KG)	27.7	/	13.	/	11.6	/	51.5	/	16.8	/
Potassium (MG/KG)	1020.	K/	654.	K/	723.	K/	1770.	/	881.	/
Selenium (MG/KG)	0.93	KS/	0.49	US/	0.92	KS/	1.9	S/	0.41	US/
Silver (MG/KG)	8.1	/	2.3	U/	2.3	U/	10.3	/	1.8	U/
Sodium (MG/KG)	481.	U/	457.	U/	459.	U/	1000.	K/	352.	U/
Thallium (MG/KG)	0.64	U/	0.73	U/	0.57	U/	0.61	U/	0.61	U/
Vanadium (MG/KG)	12.	U/	11.4	U/	11.5	U/	10.8	U/	15.5	/
Zinc (MG/KG)	441.	/	59.1	/	61.	/	688.	/	54.6	/
Total Solids (%)	73.7	/	71.8	/	75.2	/	76.4	/	82.7	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SS Type: SVOC
Generated by: CAW
Date Issued: 01-OCT-91

Parameter	WK-SS01-01 08/08/91		WK-SS02-01 08/08/91		WK-SS02-91 08/08/91		WK-SS03-01 08/08/91		WK-SS04-01 08/08/91	
Phenol (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
bis(2-Chloroethyl) ether (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
2-Chlorophenol (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
1,3-Dichlorobenzene (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
1,4-Dichlorobenzene (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
Benzyl alcohol (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
1,2-Dichlorobenzene (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
2-Methylphenol (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
bis(2-Chloroisopropyl)ether (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
4-Methylphenol (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
N-Nitroso-di-n-dipropylamine (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
Hexachloroethane (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
Nitrobenzene (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
Isophorone (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
2-Nitrophenol (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
2,4-Dimethylphenol (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
Benzoic acid (UG/KG)	2200.	U/	1900.	U/	2200.	U/	2200.	U/	2000.	U/
bis(2-Chloroethoxy)methane (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
2,4-Dichlorophenol (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
1,2,4-Trichlorobenzene (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
Naphthalene (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
4-Chloroaniline (UG/KG)	200.	J/	390.	U/	450.	U/	140.	J/	420.	U/
Hexachlorobutadiene (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
4-Chloro-3-methylphenol (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
2-Methylnaphthalene (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
Hexachlorocyclopentadiene (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
2,4,6-Trichlorophenol (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
2,4,5-Trichlorophenol (UG/KG)	2200.	U/	1900.	U/	2200.	U/	2200.	U/	2000.	U/
2-Chloronaphthalene (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
2-Nitroaniline (UG/KG)	2200.	U/	1900.	U/	2200.	U/	2200.	U/	2000.	U/
Dimethylphthalate (UG/KG)	450.	U/	390.	U/	450.	U/	100.	J/	420.	U/
Acenaphthylene (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
2,6-Dinitrotoluene (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
3-Nitroaniline (UG/KG)	2200.	U/	1900.	U/	2200.	U/	2200.	U/	2000.	U/
Acenaphthene (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
2,4-Dinitrophenol (UG/KG)	2200.	U/	1900.	U/	2200.	U/	2200.	U/	2000.	U/
4-Nitrophenol (UG/KG)	2200.	U/	1900.	U/	2200.	U/	2200.	U/	2000.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SS Type: SVOC

Parameter	WK-SS01-01 08/08/91		WK-SS02-01 08/08/91		WK-SS02-91 08/08/91		WK-SS03-01 08/08/91		WK-SS04-01 08/08/91	
Dibenzofuran (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
2,4-Dinitrotoluene (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
Diethylphthalate (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
4-Chlorophenyl-phenylether (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
Fluorene (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
4-Nitroaniline (UG/KG)	2200.	U/	1900.	U/	2200.	U/	2200.	U/	2000.	U/
4,6-Dinitro-2-methylphenol (UG/KG)	2200.	U/	1900.	U/	2200.	U/	2200.	U/	2000.	U/
N-nitrosodiphenylamine (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
4-Bromophenyl-phenylether (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
Hexachlorobenzene (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
Pentachlorophenol (UG/KG)	2200.	U/	1900.	U/	2200.	U/	2200.	U/	2000.	U/
Phenanthrene (UG/KG)	58.	J/	390.	U/	450.	U/	79.	J/	420.	U/
Anthracene (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
Di-n-butylphthalate (UG/KG)	210.	J/	61.	J/	99.	J/	240.	J/	90.	J/
Fluoranthene (UG/KG)	130.	J/	43.	J/	59.	J/	220.	J/	61.	J/
Pyrene (UG/KG)	94.	J/	52.	J/	63.	J/	260.	J/	420.	U/
Butylbenzylphthalate (UG/KG)	65.	J/	390.	U/	450.	U/	290.	J/	420.	U/
3,3'-Dichlorobenzidine (UG/KG)	900.	U/	780.	U/	890.	U/	900.	U/	840.	U/
Benzo(a)anthracene (UG/KG)	73.	J/	390.	U/	450.	U/	160.	J/	420.	U/
Chrysene (UG/KG)	93.	J/	390.	U/	450.	U/	180.	J/	420.	U/
bis(2-ethylhexyl)phthalate (UG/KG)	450.	U/	390.	U/	450.	U/	1800.	B/U	420.	U/
Di-n-octyl Phthalate (UG/KG)	450.	U/	390.	U/	450.	U/	450.	U/	420.	U/
Benzo(b)fluoranthene (UG/KG)	300.	JX/	390.	U/	450.	U/	690.	X/	420.	U/
Benzo(k)fluoranthene (UG/KG)	300.	JX/	390.	U/	450.	U/	690.	X/	420.	U/
Benzo(a)pyrene (UG/KG)	99.	J/	40.	J/	450.	U/	170.	J/	420.	U/
Indeno(1,2,3-cd)pyrene (UG/KG)	450.	U/	390.	U/	450.	U/	100.	J/	420.	U/
Dibenz(a,h)anthracene (UG/KG)	450.	U/	390.	U/	450.	U/	48.	J/	420.	U/
Benzo(g,h,i)perylene (UG/KG)	52.	J/	390.	U/	450.	U/	110.	J/	420.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SS
Generated by: CAW
Date Issued: 01-OCT-91

C-SS01-01 08/08/91

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LC/DVQ
Unknown (UG/KG)	640.	JN/NJ
Hexadecanoic acid (UG/KG)	730.	J/NJ
Unknown amine (UG/KG)	1800.	J/NJ
Unknown (UG/KG)	590.	J/NJ
Unknown (UG/KG)	550.	J/NJ
Unknown subst. hydrocarbon (UG/KG)	1300.	J/NJ
Unknown (UG/KG)	730.	J/NJ
Unknown (UG/KG)	820.	J/NJ
Unknown hydrocarbon (UG/KG)	2800.	J/NJ
Unknown (UG/KG)	820.	J/NJ
Unknown (UG/KG)	820.	J/NJ
Unknown hydrocarbon (UG/KG)	1300.	J/NJ
Unknown oxygenated hydrocarbon (UG/KG)	1800.	J/NJ
Unknown (UG/KG)	1000.	J/NJ
Unknown (UG/KG)	780.	J/NJ
Unknown (UG/KG)	1300.	J/NJ
Unknown (UG/KG)	2200.	J/NJ
Unknown (UG/KG)	1200.	J/NJ
Unknown (UG/KG)	2100.	J/NJ
Unknown (UG/KG)	550.	J/NJ

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SS

WK-SS02-01 08/08/91

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Unknown oxygenated alkane (UG/KG)	670.	J/NJ
Unknown oxygenated alkane (UG/KG)	470.	J/NJ
Hexadecanoic acid (UG/KG)	590.	J/NJ
Unknown hydrocarbon (UG/KG)	590.	J/NJ
Unknown hydrocarbon (UG/KG)	430.	J/NJ
Unknown subst. hydrocarbon (UG/KG)	1700.	J/NJ
Unknown hydrocarbon (UG/KG)	390.	J/NJ
Unknown subst. hydrocarbon (UG/KG)	3600.	J/NJ
Unknown (UG/KG)	1500.	J/NJ
Unknown oxygenated hydrocarbon (UG/KG)	2500.	J/NJ
Unknown oxygenated hydrocarbon (UG/KG)	23000.	J/NJ
Unknown oxygenated hydrocarbon (UG/KG)	510.	J/NJ
Unknown hydrocarbon (UG/KG)	2100.	J/NJ
Unknown subst. hydrocarbon (UG/KG)	2000.	J/NJ
Unknown (UG/KG)	780.	J/NJ
Unknown (UG/KG)	940.	J/NJ
Unknown (UG/KG)	1100.	J/NJ
Unknown hydrocarbon (UG/KG)	820.	J/NJ
Unknown (UG/KG)	670.	J/NJ
Unknown (UG/KG)	3100.	J/NJ

WK-SS02-91 08/08/91

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Unknown oxygenated alkane (UG/KG)	720.	J/NJ
Hexadecanoic acid (UG/KG)	540.	J/NJ
Unknown oxygenated hydrocarbon (UG/KG)	1200.	J/NJ
Unknown subst. hydrocarbon (UG/KG)	2800.	J/NJ
Unknown (UG/KG)	860.	J/NJ
Unknown oxygenated hydrocarbon (UG/KG)	810.	J/NJ
Unknown subst. hydrocarbon (UG/KG)	7600.	J/NJ
Unknown (UG/KG)	630.	J/NJ
Unknown (UG/KG)	500.	J/NJ
Unknown hydrocarbon (UG/KG)	1400.	J/NJ
Unknown hydrocarbon (UG/KG)	1700.	J/NJ
Unknown (UG/KG)	720.	J/NJ
Unknown (UG/KG)	720.	J/NJ
Unknown (UG/KG)	1300.	J/NJ
Unknown hydrocarbon (UG/KG)	900.	J/NJ
Unknown (UG/KG)	990.	J/NJ
Unknown (UG/KG)	810.	J/NJ
Unknown (UG/KG)	3500.	J/NJ
Unknown (UG/KG)	500.	J/NJ
Unknown (UG/KG)	720.	J/NJ

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

atrix: SS

-SS03-01 08/08/91

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Hexadecanoic acid (UG/KG)	1300.	J/NJ
Unknown chlorinated hydrocarbo (UG/KG)	1100.	J/NJ
Unknown substituted alkane (UG/KG)	2300.	J/NJ
Unknown (UG/KG)	1200.	J/NJ
Unknown (UG/KG)	1200.	J/NJ
Unknown (UG/KG)	2200.	J/NJ
Unknown oxygenated hydrocarbon (UG/KG)	2700.	J/NJ
Unknown (UG/KG)	1200.	J/NJ
Unknown (UG/KG)	1500.	J/NJ
Unknown (UG/KG)	1600.	J/NJ
Unknown oxygenated hydrocarbon (UG/KG)	1600.	J/NJ
Unknown (UG/KG)	2100.	J/NJ
Unknown (UG/KG)	1500.	J/NJ
Unknown oxygenated hydrocarbon (UG/KG)	5000.	J/NJ
Unknown (UG/KG)	1200.	J/NJ
Unknown hydrocarbon (UG/KG)	1200.	J/NJ
Unknown (UG/KG)	2600.	J/NJ
Unknown (UG/KG)	3100.	J/NJ
Unknown (UG/KG)	2600.	J/NJ
Unknown (UG/KG)	2800.	J/NJ

-SS04-01 08/08/91

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Unknown (UG/KG)	800.	J/NJ
Unknown (UG/KG)	930.	J/NJ
Unknown (UG/KG)	1200.	J/NJ
Unknown (UG/KG)	720.	J/NJ
Unknown (UG/KG)	720.	BJ/NJ
Unknown (UG/KG)	1700.	J/NJ
Unknown (UG/KG)	11000.	J/NJ
Unknown (UG/KG)	590.	J/NJ
Unknown hydrocarbon (UG/KG)	2100.	J/NJ
Unknown (UG/KG)	1100.	J/NJ
Unknown (UG/KG)	1200.	J/NJ
Unknown (UG/KG)	670.	J/NJ
Unknown (UG/KG)	970.	J/NJ
Unknown (UG/KG)	1500.	J/NJ
Unknown hydrocarbon (UG/KG)	970.	J/NJ
Unknown (UG/KG)	2400.	J/NJ
Unknown (UG/KG)	890.	J/NJ
Unknown (UG/KG)	4600.	J/NJ
Unknown (UG/KG)	1600.	J/NJ
Unknown (UG/KG)	510.	J/NJ

AQUIFER MATRIX

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SB Type: SLIND
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-SBMW01D-08.5 07/27/90		WK-SBMW01D-41 07/30/90		WK-SBMW02-43 08/03/90		WK-SBMW02-60 08/03/90		WK-SBMW03-06 08/06/90	
Total Organic Carbon (MG/KG)	16000.	>/	16000.	>/	16000.	>/	16000.	>/	16000.	>/
Cation Exchange Capacity (MEQ/L)	0.	U/	0.	U/	3.95	/	0.	U/	0.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: SB Type: SLIND

Parameter	WK-SBHW04-13.5 08/10/90		WK-SBHW05-22 08/01/90		WK-SBHW06-08.5 07/31/90		WK-SBHW06-33.5 07/31/90	
Total Organic Carbon (MG/KG)	16000.	>/	16000.	>/	140.	/	16000.	>/
Cation Exchange Capacity (MEQ/L)	0.	U/	5.88	/	0.	U/	0.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value:

WARZYN

LABORATORY RESULTS
VOLATILE ORGANIC REPORT

Project: Woodstock Landfill

Project #: 60776.34

Location: Woodstock, Illinois

Date Sampled: 7/19/91

Compound	Method Detection Limits (ug/L)	3006-001 SB4	3006-002 SB2	3006-003 SB1	3006-004 SB3	3006-005 SB5
Benzene	1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Ethylbenzene	1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Toluene	1.00	<1.00	<1.00	<1.00	<1.00	<1.00
m- and p-Xylene	2.00	<2.00	<2.00	<2.00	<2.00	<2.00
o-Xylene	1.00	<1.00	<1.00	<1.00	<1.00	<1.00

Method Reference: EPA-600, "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewaters", July 1982, Method 602.

Ck'd: [illegible] App'd: BCH
Date Issued: 7-23-91

WI Lab Certification ID#: 113135300
[var-Jul-040]
60776.34-lab

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: LEC Type: IND MTL
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-LLFB01-01 08/08/90		WK-LLFB07-02 02/07/91		WK-LLW01-01 08/08/90		WK-LLW01-02 02/08/91		WK-LLW01-91 08/08/90	
Aluminum (UG/L)	50.	U/	50.	U/	283000.	/	95400.	/	170000.	/
Antimony (UG/L)	50.	UN/R	5.	UN/R	50.	UN/R	5.	UN/R	50.	UN/R
Arsenic (UG/L)	2.	UN/R	2.	US/	68.8	NS/J	73.7	S/	24.	NS/J
Barium (UG/L)	10.	U/	10.	U/	2600.	/	855.	/	2450.	/
Beryllium (UG/L)	5.	U/	5.	U/	17.	/	5.	/	12.	/
Cadmium (UG/L)	5.	UN/	5.	U/	36.	N/J	6.7	/	35.	N/J
Calcium (UG/L)	1000.	U/	1000.	U/	3020000.	/	993000.	/	2110000.	/
Chromium, total (UG/L)	10.	U/	10.	U/	1100.	/	306.	/	676.	/
Cobalt (UG/L)	10.	U/	10.	U/	415.	/	95.	/	251.	/
Copper (UG/L)	10.	U/	10.	U/	3070.	/	1080.	/	1990.	/
Iron (UG/L)	20.	U/	192.	/	854000.	/	263000.	/	572000.	/
Lead (UG/L)	3.	U/	3.	U/	2030.	/	496.	S/	1220.	/
Magnesium (UG/L)	1000.	U/	1000.	U/	1470000.	/	456000.	/	945000.	/
Manganese (UG/L)	10.	U/	15.	U/	18400.	/	5400.	/	15800.	/
Mercury (UG/L)	0.2	U/	0.2	U/	5.3	/	2.2	/	3.2	/
Nickel (UG/L)	20.	U/	20.	U/	3090.	/	1070.	/	2040.	/
Potassium (UG/L)	100.	U/	100.	U/	62800.	/	23200.	/	47300.	/
Selenium (UG/L)	2.	UN/UJ	2.	US/	20.6	NS/J	20.	US/	10.	NS/J
Silver (UG/L)	10.	UN/UJ	10.	U*/	23.	N/J	20.	*/	17.	N/J
Sodium (UG/L)	1000.	UN/	1000.	U/	18700.	N/J	13000.	/	14600.	N/J
Thallium (UG/L)	3.	UNS/UJ	3.	U/	15.3	NS/J	8.2	KS/	12.9	NS/J
Vanadium (UG/L)	50.	U/	50.	U/	1320.	/	349.	/	928.	/
Zinc (UG/L)	23.	/	10.	U/	31100.	/	13400.	/	20300.	/
Cyanide (UG/L)	10.	U/	10.	U/	60.	/	10.	U/	37.	/
Alkalinity, Total (MG/L)	5.	U/	5.	U/	630.	/J	585.	/	643.	/J
Chloride (MG/L)	1.	U/	1.	U/	8.	/	11.	/	9.	/
Chemical Oxygen Demand (MG/L)	20.	U/	20.	U/	2820.	/	38.	/	3440.	/
Nitrate+Nitrite Nitrogen (MG/L)	0.06	*/	0.07	/	0.26	*/U	0.02	U/	0.17	*/U
Nitrogen, Ammonia (MG/L)	0.1	U/	0.12	/	15.5	/	14.2	/	17.4	/
Nitrogen, Total Kjeldahl (MG/L)	0.1	U/UJ	0.21	/	54.1	/J	19.8	/	60.	/J
Phosphorus, Total (MG/L)	0.02	U/UJ	0.02	U/	10.	/J	0.58	/	10.4	/J
Sulfate (MG/L)	5.	U/	5.	UN/	29.	/	53.	N/J	31.	/
Total Dissolved Solids (MG/L)	20.	U/	20.	U/	612.	/	608.	/	604.	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: LEC Type: IND MTL

Parameter	WK-LLW02-01 08/08/90		WK-LLW02-02 02/07/91		WK-LLW02-92 02/07/91		WK-LLW03-01 08/08/90		WK-LLW03-02 02/08/91	
Aluminum (UG/L)	22800.	/	54500.	/	54800.	/	190000.	/	94500.	/
Antimony (UG/L)	50.	UN/R	5.	UN/R	5.	UN/R	50.	UN/R	30.	KN/J
Arsenic (UG/L)	55.5	N/J	88.8	S/	89.5	S/	50.	UN/R	102.	S/
Barium (UG/L)	810.	/	1250.	/	1360.	/	10800.	/	5900.	/
Beryllium (UG/L)	5.	U/	5.	U/	5.	U/	9.	/	5.5	/
Cadmium (UG/L)	5.	UN/	6.3	/	8.2	/	333.	N/J	121.	/
Calcium (UG/L)	476000.	/	768000.	/	913000.	/	3080000.	/	1240000.	/
Chromium, total (UG/L)	86.	/	153.	/	151.	/	1400.	/	799.	/
Cobalt (UG/L)	60.	/	66.	/	62.	/	227.	/	79.	/
Copper (UG/L)	497.	/	1030.	/	972.	/	10800.	/	7120.	/
Iron (UG/L)	262000.	/	485000.	/	501000.	/	946000.	/	454000.	/
Lead (UG/L)	150.	/	330.	S/	429.	S/	18000.	/	12900.	S/
Magnesium (UG/L)	174000.	/	332000.	/	374000.	/	427000.	/	337000.	/
Manganese (UG/L)	7980.	/	15000.	/	16900.	/	26500.	/	13000.	/
Mercury (UG/L)	0.28	/	1.2	/	0.95	/	5.7	/	3.7	/
Nickel (UG/L)	1950.	/	4390.	/	4300.	/	15000.	/	8090.	/
Potassium (UG/L)	28000.	/	26500.	/	26100.	/	177000.	/	135000.	/
Selenium (UG/L)	10.	UNS/UJ	2.	US/	2.	US/	13.5	NS/J	20.	US/
Silver (UG/L)	10.	UN/UJ	10.	U*/	10.	U*/	58.	N/J	29.5	*/
Sodium (UG/L)	22700.	N/J	32100.	/	33300.	/	205000.	N/J	215000.	/
Thallium (UG/L)	5.	KNS/J	6.7	KS/	9.	KS/	8.8	KNS/J	4.4	KS/
Vanadium (UG/L)	108.	/	108.	/	94.	/	503.	/	275.	/
Zinc (UG/L)	8140.	/	17100.	/	16800.	/	185000.	/	93600.	/
Cyanide (UG/L)	20.	/	18.	/	33.	/	50.	/	42.	/
Alkalinity, Total (MG/L)	907.	/J	973.	/	934.	/	1510.	/J	1900.	/
Chloride (MG/L)	29.	/	38.	/	34.	/	156.	/	159.	/
Chemical Oxygen Demand (MG/L)	381.	/	125.	/	117.	/	6970.	/	197.	/
Nitrate+Nitrite Nitrogen (MG/L)	0.18	*/U	0.04	/U	0.02	U/	0.04	U*/	0.82	U/
Nitrogen, Ammonia (MG/L)	24.9	/	25.2	/	28.4	/	27.1	/	51.8	/
Nitrogen, Total Kjeldahl (MG/L)	21.7	/J	36.5	/	41.	/	161.	/J	169.	/
Phosphorus, Total (MG/L)	2.34	/J	5.96	/	6.54	/	23.2	/J	16.1	/
Sulfate (MG/L)	10.	/	43.	N/J	33.	N/J	37.	/	35.	N/J
Total Dissolved Solids (MG/L)	924.	/	918.	/	904.	/	1630.	/	1570.	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: LEC Type: IND MTL

Parameter	WK-LLW04-01 08/08/90		WK-LLW04-02 02/08/91		WK-LLW05-01 08/08/90		WK-LLW05-02 02/08/91	
Aluminum (UG/L)	174000.	/	97000.	/	167000.	/	358000.	/
Antimony (UG/L)	50.	UN/R	5.	UN/R	50.	UN/R	5.	UNS/R
Arsenic (UG/L)	50.	UN/R	76.5	S/	2.	UN/R	2.9	KS/
Barium (UG/L)	2070.	/	1130.	/	4420.	/	2070.	/
Beryllium (UG/L)	9.	/	5.	/	10.	/	23.5	/
Cadmium (UG/L)	21.	N/J	5.	U/	19.	N/J	32.	/
Calcium (UG/L)	1700000.	/	919000.	/	3460000.	/	4390000.	/
Chromium, total (UG/L)	548.	/	250.	/	629.	/	1200.	/
Cobalt (UG/L)	255.	/	117.	/	261.	/	546.	/
Copper (UG/L)	2160.	/	1060.	/	1900.	/	4480.	/
Iron (UG/L)	742000.	/	350000.	/	773000.	/	1560000.	/
Lead (UG/L)	1900.	/	982.	S/	950.	/	3.	U/
Magnesium (UG/L)	881000.	/	405000.	/	654000.	/	1260000.	/
Manganese (UG/L)	15500.	/	6330.	/	19000.	/	31200.	/
Mercury (UG/L)	2.2	/	1.4	/	1.8	/	3.8	/
Nickel (UG/L)	1900.	/	846.	/	3760.	/	5770.	/
Potassium (UG/L)	53000.	/	27300.	/	64300.	/	83400.	/
Selenium (UG/L)	10.	UNS/UJ	3.7	KS/	15.4	NS/J	9.5	S/
Silver (UG/L)	10.	UN/UJ	10.	U*/	12.	N/J	10.	U*/
Sodium (UG/L)	108000.	N/J	115000.	/	66200.	N/J	93500.	/
Thallium (UG/L)	12.4	NS/J	4.2	KS/	12.5	NS/J	5.3	KS/
Vanadium (UG/L)	676.	/	283.	/	576.	/	1180.	/
Zinc (UG/L)	18700.	/	8700.	/	8340.	/	16800.	/
Cyanide (UG/L)	25.	/	10.	U/	58.	/	29.	/
Alkalinity, Total (MG/L)	876.	/J	951.	/	859.	/J	1100.	/
Chloride (MG/L)	121.	/	127.	/	40.	/	34.	/
Chemical Oxygen Demand (MG/L)	2260.	/	99.	/	7830.	/	150.	/
Nitrate+Nitrite Nitrogen (MG/L)	0.2	*/U	0.02	U/	0.15	*/U	0.02	U/
Nitrogen, Ammonia (MG/L)	7.55	/	3.46	/	31.9	/	32.3	/
Nitrogen, Total Kjeldahl (MG/L)	26.2	/J	19.6	/	124.	/J	120.	/
Phosphorus, Total (MG/L)	7.48	/J	5.65	/	12.2	/J	9.4	/
Sulfate (MG/L)	29.	/	31.	N/J	9.	/	34.	N/J
Total Dissolved Solids (MG/L)	1010.	/	1060.	/	904.	/	1052.	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: LEC Type: PPCB
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-LLFB01-01 08/08/90		WK-LLW01-01 08/08/90		WK-LLW01-91 08/08/90		WK-LLW02-01 08/08/90		WK-LLW03-01 08/08/90	
alpha-BHC (UG/L)	0.05	U/	0.05	U/	0.05	U/	0.05	U/	0.05	U/
beta-BHC (UG/L)	0.05	U/	0.05	U/	0.05	U/	0.05	U/	0.05	U/
delta-BHC (UG/L)	0.05	U/	0.05	U/	0.05	U/	0.05	U/	0.05	U/
gamma-BHC (Lindane) (UG/L)	0.05	U/	0.05	U/	0.05	U/	0.05	U/	0.05	
Heptachlor (UG/L)	0.05	U/	0.05	U/	0.05	U/	0.05	U/	0.05	U/
Aldrin (UG/L)	0.05	U/	0.05	U/	0.05	U/	0.05	U/	0.05	U/
Heptachlor epoxide (UG/L)	0.05	U/	0.05	U/	0.05	U/	0.05	U/	0.05	U/
Endosulfan I (UG/L)	0.05	U/	0.05	U/	0.05	U/	0.05	U/	0.05	U/
Dieldrin (UG/L)	0.1	U/	0.1	U/	0.1	U/	0.1	U/	0.1	U/
4,4'-DDE (UG/L)	0.1	U/	0.1	U/	0.1	U/	0.1	U/	0.1	U/
Endrin (UG/L)	0.1	U/	0.1	U/	0.1	U/	0.1	U/	0.1	U/
Endosulfan II (UG/L)	0.1	U/	0.1	U/	0.1	U/	0.1	U/	0.1	U/
4,4'-DDD (UG/L)	0.1	U/	0.1	U/	0.1	U/	0.1	U/	0.1	U/
Endosulfan sulfate (UG/L)	0.1	U/	0.1	U/	0.1	U/	0.1	U/	0.1	U/
4,4'-DDT (UG/L)	0.1	U/	0.1	U/	0.1	U/	0.1	U/	0.1	U/
Methoxychlor (UG/L)	0.5	U/	0.5	U/	0.5	U/	0.5	U/	0.5	U/
Endrin ketone (UG/L)	0.1	U/	0.1	U/	0.1	U/	0.1	U/	0.1	U/
alpha-Chlordane (UG/L)	0.5	U/	0.5	U/	0.5	U/	0.5	U/	0.5	U/
gamma-Chlordane (UG/L)	0.5	U/	0.5	U/	0.5	U/	0.5	U/	0.5	U/
Toxaphene (UG/L)	1.	U/	1.	U/	1.	U/	1.	U/	1.	U/
Aroclor-1016 (UG/L)	0.5	U/	0.5	U/	0.5	U/	0.5	U/	0.5	U/
Aroclor-1221 (UG/L)	0.5	U/	0.5	U/	0.5	U/	0.5	U/	0.5	U/
Aroclor-1232 (UG/L)	0.5	U/	0.5	U/	0.5	U/	0.5	U/	0.5	U/
Aroclor-1242 (UG/L)	0.5	U/	0.5	U/	0.5	U/	0.5	U/	0.5	U/
Aroclor-1248 (UG/L)	0.5	U/	0.5	U/	0.5	U/	0.5	U/	0.5	U/
Aroclor-1254 (UG/L)	1.	U/	1.	U/	1.	U/	1.	U/	1.	U/
Aroclor-1260 (UG/L)	1.	U/	1.	U/	1.	U/	1.	U/	1.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: LEC Type: PPCB

Parameter	WK-LLW04-01 08/08/90		WK-LLW05-01 08/08/90	
alpha-BHC (UG/L)	0.05	U/	0.05	U/
beta-BHC (UG/L)	0.05	U/	0.05	U/
delta-BHC (UG/L)	0.05	U/	0.05	U/
gamma-BHC (Lindane) (UG/L)	0.05	U/	0.05	U/
Heptachlor (UG/L)	0.05	U/	0.05	U/
Aldrin (UG/L)	0.05	U/	0.05	U/
Heptachlor epoxide (UG/L)	0.05	U/	0.05	U/
Endosulfan I (UG/L)	0.05	U/	0.05	U/
Dieldrin (UG/L)	0.1	U/	0.1	U/
4,4'-DDE (UG/L)	0.1	U/	0.1	U/
Endrin (UG/L)	0.1	U/	0.1	U/
Endosulfan II (UG/L)	0.1	U/	0.1	U/
4,4'-DDD (UG/L)	0.1	U/	0.1	U/
Endosulfan sulfate (UG/L)	0.1	U/	0.1	U/
4,4'-DDT (UG/L)	0.1	U/	0.1	U/
Methoxychlor (UG/L)	0.5	U/	0.5	U/
Endrin ketone (UG/L)	0.1	U/	0.1	U/
alpha-Chlordane (UG/L)	0.5	U/	0.5	U/
gamma-Chlordane (UG/L)	0.5	U/	0.5	U/
Toxaphene (UG/L)	1.	U/	1.	U/
Aroclor-1016 (UG/L)	0.5	U/	0.5	U/
Aroclor-1221 (UG/L)	0.5	U/	0.5	U/
Aroclor-1232 (UG/L)	0.5	U/	0.5	U/
Aroclor-1242 (UG/L)	0.5	U/	0.5	U/
Aroclor-1248 (UG/L)	0.5	U/	0.5	U/
Aroclor-1254 (UG/L)	1.	U/	1.	U/
Aroclor-1260 (UG/L)	1.	U/	1.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: LEC Type: VOC
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-LLFB01-01 08/08/90		WK-LLFB07-02 02/07/91		WK-LLTB02-01 08/08/90		WK-LLTB03-01 08/08/90		WK-LLTB07-02 02/08/91	
Chloromethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromomethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Vinyl chloride (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Chloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Methylene chloride (UG/L)	10.	U/	5.	U/	5.	U/	13.	B/U	5.	U/
Acetone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Carbon disulfide (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethene (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chloroform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
2-Butanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,1,1-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Carbon tetrachloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Vinyl acetate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromodichloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloropropane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
cis-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Trichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Dibromochloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Benzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
trans-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Bromoform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
4-Methyl-2-pentanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Hexanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Tetrachloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Toluene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chlorobenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Ethylbenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Xylenes (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: LEC Type: VOC

Parameter	WK-LLW01-01 08/08/90		WK-LLW01-02 02/08/91		WK-LLW01-91 08/08/90		WK-LLW02-01 08/08/90		WK-LLW02-02 02/07/91	
Chloromethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromomethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Vinyl chloride (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Chloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Methylene chloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Acetone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Carbon disulfide (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethene (total) (UG/L)	5.	U/	16.	/	5.	U/	5.	U/	5.	U/
Chloroform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
2-Butanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,1,1-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Carbon tetrachloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Vinyl acetate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromodichloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloropropane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
cis-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Trichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Dibromochloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Benzene (UG/L)	9.	/	11.	/	8.	/	8.	/	9.	/
trans-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Bromoform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
4-Methyl-2-pentanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Hexanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Tetrachloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Toluene (UG/L)	1.	J/	5.	U/	1.	J/	1.	J/	5.	U/
Chlorobenzene (UG/L)	3.	J/	8.	/	3.	J/	6.	/	8.	/
Ethylbenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Xylenes (total) (UG/L)	2.	J/	8.	/	2.	J/	5.	/	7.	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: LEC Type: VOC

Parameter	WK-LLW02-92 02/07/91		WK-LLW03-01 08/08/90		WK-LLW03-02 02/08/91		WK-LLW04-01 08/08/90		WK-LLW04-02 02/08/91	
Chloromethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromomethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Vinyl chloride (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Chloroethane (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Methylene chloride (UG/L)	7.	B/U	5.	U/	5.	U/	5.	U/	5.	U/
Acetone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Carbon disulfide (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethene (total) (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chloroform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
2-Butanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
1,1,1-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Carbon tetrachloride (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Vinyl acetate (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Bromodichloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,2-Dichloropropane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
cis-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Trichloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Dibromochloromethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2-Trichloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Benzene (UG/L)	9.	/	3.	J/	3.	J/	5.	U/	5.	U/
trans-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Bromoform (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
4-Methyl-2-pentanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
2-Hexanone (UG/L)	10.	U/	10.	U/	10.	U/	10.	U/	10.	U/
Tetrachloroethene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
1,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Toluene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Chlorobenzene (UG/L)	8.	/	5.	U/	5.	U/	5.	U/	5.	U/
Ethylbenzene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/	5.	U/	5.	U/	5.	U/
Xylenes (total) (UG/L)	6.	/	5.	U/	5.	U/	5.	U/	5.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: LEC Type: VOC

Parameter	WK-LLW05-01 08/08/90		WK-LLW05-02 02/08/91	
Chloromethane (UG/L)	10.	U/	10.	U/
Bromomethane (UG/L)	10.	U/	10.	U/
Vinyl chloride (UG/L)	10.	U/	10.	U/
Chloroethane (UG/L)	10.	U/	10.	U/
Methylene chloride (UG/L)	5.	U/	5.	U/
Acetone (UG/L)	10.	U/	10.	U/
Carbon disulfide (UG/L)	5.	U/	5.	U/
1,1-Dichloroethene (UG/L)	5.	U/	5.	U/
1,1-Dichloroethane (UG/L)	5.	U/	5.	U/
1,2-Dichloroethene (total) (UG/L)	5.	U/	5.	U/
Chloroform (UG/L)	5.	U/	5.	U/
1,2-Dichloroethane (UG/L)	5.	U/	5.	U/
2-Butanone (UG/L)	10.	U/	10.	U/
1,1,1-Trichloroethane (UG/L)	5.	U/	5.	U/
Carbon tetrachloride (UG/L)	5.	U/	5.	U/
Vinyl acetate (UG/L)	10.	U/	10.	U/
Bromodichloromethane (UG/L)	5.	U/	5.	U/
1,2-Dichloropropane (UG/L)	5.	U/	5.	U/
cis-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/
Trichloroethene (UG/L)	5.	U/	5.	U/
Dibromochloromethane (UG/L)	5.	U/	5.	U/
1,1,2-Trichloroethane (UG/L)	5.	U/	5.	U/
Benzene (UG/L)	11.	/	14.	/
trans-1,3-Dichloropropene (UG/L)	5.	U/	5.	U/
Bromoform (UG/L)	5.	U/	5.	U/
4-Methyl-2-pentanone (UG/L)	10.	U/	10.	U/
2-Hexanone (UG/L)	10.	U/	10.	U/
Tetrachloroethene (UG/L)	5.	U/	5.	U/
1,1,2,2-Tetrachloroethane (UG/L)	5.	U/	5.	U/
Toluene (UG/L)	2.	J/	5.	U/
Chlorobenzene (UG/L)	8.	/	7.	/
Ethylbenzene (UG/L)	5.	U/	5.	U/
Styrene (UG/L)	5.	U/	5.	U/
Xylenes (total) (UG/L)	2.	J/	2.	J/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: LEC Type: SVOC
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-LLFB01-01 08/08/90		WK-LLFB07-02 02/07/91		WK-LLW01-01 08/08/90		WK-LLW01-91 08/08/90		WK-LLW02-01 08/08/90	
Phenol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
bis(2-Chloroethyl) ether (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
2-Chlorophenol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
1,3-Dichlorobenzene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
1,4-Dichlorobenzene (UG/L)	10.	U/	20.	U/	2.	J/	10.	U/	2.	J/J
Benzyl Alcohol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
1,2-Dichlorobenzene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
2-Methylphenol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
bis(2-Chloroisopropyl)ether (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
4-Methylphenol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
N-Nitroso-di-n-dipropylamine (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Hexachloroethane (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Nitrobenzene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Isophorone (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
2-Nitrophenol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
2,4-Dimethylphenol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Benzoic Acid (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/R
bis(2-Chloroethoxy)methane (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
2,4-Dichlorophenol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
1,2,4-Trichlorobenzene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Naphthalene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	6.	J/J
4-Chloroaniline (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Hexachlorobutadiene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
4-Chloro-3-methylphenol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
2-Methylnaphthalene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Hexachlorocyclopentadiene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
2,4,6-Trichlorophenol (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
2,4,5-Trichlorophenol (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/R
2-Chloronaphthalene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
2-Nitroaniline (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/R
Dimethylphthalate (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Acenaphthylene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
2,6-Dinitrotoluene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
3-Nitroaniline (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/R
Acenaphthene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
2,4-Dinitrophenol (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/R
4-Nitrophenol (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/R

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ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: LEC Type: SVOC

Parameter	WK-LLW02-02 02/07/91		WK-LLW02-92 02/07/91		WK-LLW03-01 08/08/90		WK-LLW04-01 08/08/90		WK-LLW05-01 08/08/90	
Phenol (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
bis(2-Chloroethyl) ether (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2-Chlorophenol (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
1,3-Dichlorobenzene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
1,4-Dichlorobenzene (UG/L)	6.	J/	8.	J/	10.	U/	10.	U/	2.	J/
Benzyl Alcohol (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
1,2-Dichlorobenzene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2-Methylphenol (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
bis(2-Chloroisopropyl)ether (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
4-Methylphenol (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	2.	J/
N-Nitroso-di-n-dipropylamine (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Hexachloroethane (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Nitrobenzene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Isophorone (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2-Nitrophenol (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2,4-Dimethylphenol (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Benzoic Acid (UG/L)	100.	U/	100.	U/	54.	B/J	10.	U/	28.	BJ/J
bis(2-Chloroethoxy)methane (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2,4-Dichlorophenol (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
1,2,4-Trichlorobenzene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Naphthalene (UG/L)	26.	/	34.	/	10.	U/	10.	U/	10.	U/
4-Chloroaniline (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Hexachlorobutadiene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
4-Chloro-3-methylphenol (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2-Methylnaphthalene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Hexachlorocyclopentadiene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2,4,6-Trichlorophenol (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2,4,5-Trichlorophenol (UG/L)	100.	U/	100.	U/	50.	U/	50.	U/	50.	U/
2-Chloronaphthalene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2-Nitroaniline (UG/L)	100.	U/	100.	U/	50.	U/	50.	U/	50.	U/
Dimethylphthalate (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Acenaphthylene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2,6-Dinitrotoluene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
3-Nitroaniline (UG/L)	100.	U/	100.	U/	50.	U/	50.	U/	50.	U/
Acenaphthene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2,4-Dinitrophenol (UG/L)	100.	U/	100.	U/	50.	U/	50.	U/	50.	U/
4-Nitrophenol (UG/L)	100.	U/	100.	U/	50.	U/	50.	U/	50.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: LEC Type: SVOC

Parameter	WK-LLFB01-01 08/08/90		WK-LLFB07-02 02/07/91		WK-LLW01-01 08/08/90		WK-LLW01-91 08/08/90		WK-LLW02-01 08/08/90	
Dibenzofuran (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
2,4-Dinitrotoluene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Diethylphthalate (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
4-Chlorophenyl-phenylether (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Fluorene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
4-Nitroaniline (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/R
4,6-Dinitro-2-methylphenol (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/R
N-nitrosodiphenylamine (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
4-Bromophenyl-phenylether (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Hexachlorobenzene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Pentachlorophenol (UG/L)	50.	U/	100.	U/	50.	U/	50.	U/	50.	U/R
Phenanthrene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Anthracene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Di-n-butylphthalate (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Fluoranthene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Pyrene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Butylbenzylphthalate (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
3,3'-Dichlorobenzidine (UG/L)	20.	U/	40.	U/	20.	U/	20.	U/	20.	U/R
Benzo(a)anthracene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Chrysene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
bis(2-ethylhexyl)phthalate (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Di-n-octyl Phthalate (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Benzo(b)fluoranthene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Benzo(k)fluoranthene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Benzo(a)pyrene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Indeno(1,2,3-cd)pyrene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Dibenz(a,h)anthracene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R
Benzo(g,h,i)perylene (UG/L)	10.	U/	20.	U/	10.	U/	10.	U/	10.	U/R

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ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: LEC Type: SVOC

Parameter	WK-LLW02-02 02/07/91		WK-LLW02-92 02/07/91		WK-LLW03-01 08/08/90		WK-LLW04-01 08/08/90		WK-LLW05-01 08/08/90	
Dibenzofuran (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
2,4-Dinitrotoluene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Diethylphthalate (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
4-Chlorophenyl-phenylether (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Fluorene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
4-Nitroaniline (UG/L)	100.	U/	100.	U/	50.	U/	50.	U/	50.	U/
4,6-Dinitro-2-methylphenol (UG/L)	100.	U/	100.	U/	50.	U/	50.	U/	50.	U/
N-nitrosodiphenylamine (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
4-Bromophenyl-phenylether (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Hexachlorobenzene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Pentachlorophenol (UG/L)	100.	U/	100.	U/	3.	J/	50.	U/	50.	U/
Phenanthrene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Anthracene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Di-n-butylphthalate (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Fluoranthene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Pyrene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Butylbenzylphthalate (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
3,3'-Dichlorobenzidine (UG/L)	40.	U/	40.	U/	20.	U/	20.	U/	20.	U/
Benzo(a)anthracene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Chrysene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
bis(2-ethylhexyl)phthalate (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Di-n-octyl Phthalate (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Benzo(b)fluoranthene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Benzo(k)fluoranthene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Benzo(a)pyrene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Indeno(1,2,3-cd)pyrene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Dibenz(a,h)anthracene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/
Benzo(g,h,i)perylene (UG/L)	20.	U/	20.	U/	10.	U/	10.	U/	10.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: LEC
Generated by: CAW
Date Issued: 10-MAY-91

WK-LLW01-01 08/08/90

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
4-(Tetramethylbutyl)phenol (UG/L)	10.	J/

(TVOA) Tentatively-Identified Volatiles

Compound (Units)	Concentration	LQ/DVQ
Benzene, trimethyl- (UG/L)	9.	J/
Dichlorobenzene (UG/L)	3.	J/
Benzene, trimethyl- (UG/L)	3.	J/
1H-indene, dihydro- (UG/L)	7.	J/
Ethyldimethylbenzene (UG/L)	3.	J/
Ethyldimethylbenzene (UG/L)	6.	J/
Benzene, tetramethyl- (UG/L)	3.	J/
Ethyldimethylbenzene (UG/L)	6.	J/
Ethyldimethylbenzene+unknown (UG/L)	8.	J/

WK-LLW01-02 02/08/91

(TVOA) Tentatively-Identified Volatiles

Compound (Units)	Concentration	LQ/DVQ
Benzene, propyl- (UG/L)	4.	J/

WK-LLW01-91 08/08/90

(TVOA) Tentatively-Identified Volatiles

Compound (Units)	Concentration	LQ/DVQ
Benzene, trimethyl- (UG/L)	9.	J/
Benzene, propenyl- (UG/L)	7.	J/
Benzene, ethyldimethyl- (UG/L)	6.	J/
Benzene, tetramethyl- (UG/L)	6.	J/
Unknown subst. benzene (UG/L)	9.	J/

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: LEC

WK-LLW02-01 08/08/90

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Trimethylbenzene (UG/L)	14.	J/
Trimethylbenzene (UG/L)	8.	J/
Unknown (UG/L)	14.	J/
Unknown (UG/L)	12.	J/

(TVOA) Tentatively-Identified Volatiles

Compound (Units)	Concentration	LQ/DVQ
Benzene, trimethyl- (UG/L)	37.	J/
Benzene, trimethyl- (UG/L)	17.	J/
Unknown (UG/L)	16.	J/
Benzene, methylpropyl- (UG/L)	9.	J/
Benzene, ethyldimethyl- (UG/L)	11.	J/
Benzene, ethyldimethyl- (UG/L)	11.	J/
Benzene, tetramethyl- (UG/L)	10.	J/
Unknown (UG/L)	14.	J/
Benzene, tetramethyl- (UG/L)	6.	J/
Naphthalene (UG/L)	17.	J/

WK-LLW02-02 02/07/91

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Unknown (UG/L)	24.	J/JN
Trimethylbenzene (UG/L)	32.	J/JN
2(3H)-benzothiazolone (UG/L)	24.	J/JN
Butoxyethanol phosphate (UG/L)	16.	J/JN

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: LEC

WK-LLW02-92 02/07/91

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Unknown (UG/L)	24.	J/JN
Trimethylbenzene (UG/L)	44.	J/JN
Trimethylbenzene (UG/L)	16.	J/JN
Unknown alkenyl benzene (UG/L)	16.	J/JN
2(3H)-benzothiazolone (UG/L)	28.	J/JN
Ethanol, 2-butoxy-, phosphate (UG/L)	28.	J/JN

(TVOA) Tentatively-Identified Volatiles

Compound (Units)	Concentration	LQ/DVQ
Propyl benzene (UG/L)	8.	J/JN

WK-LLW03-01 08/08/90

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Benzamide, N,N-diethyl-3-methy (UG/L)	16.	J/
Hexadecanoic acid (UG/L)	14.	J/
Hexanedioic acid, mono(2-ethyl (UG/L)	8.	J/

WK-LLW03-02 02/08/91

(TVOA) Tentatively-Identified Volatiles

Compound (Units)	Concentration	LQ/DVQ
Unknown (UG/L)	3.	J/

WK-LLW04-01 08/08/90

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Hexanoic acid, 2-methyl- (UG/L)	16.	J/

(TVOA) Tentatively-Identified Volatiles

Compound (Units)	Concentration	LQ/DVQ
Unknown (UG/L)	8.	J/

SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: LEC

WK-LLW04-02 02/08/91

(TVOA) Tentatively-Identified Volatiles

Compound (Units)	Concentration	LQ/DVQ
Ethane,1,1'-oxybis- (UG/L)	6.	J/
Unknown (UG/L)	6.	J/

WK-LLW05-01 08/08/90

(TBNA) Tentatively-Identified Semi-Volatiles

Compound (Units)	Concentration	LQ/DVQ
Hexanoic acid (DOT) (UG/L)	14.	J/
Unknown (UG/L)	14.	J/
Unknown (UG/L)	16.	J/
Trimethylbenzene (UG/L)	8.	J/
Benzamide, N,N-diethyl-3-methy (UG/L)	8.	J/
Phenol, bis(dimethylethyl)-met (UG/L)	48.	J/
Unknown (UG/L)	8.	J/

(TVOA) Tentatively-Identified Volatiles

Compound (Units)	Concentration	LQ/DVQ
Benzene, trimethyl- (UG/L)	14.	J/
Benzene, dichloro- (UG/L)	4.	J/
Unknown subst. benzene (UG/L)	10.	J/
Unknown (UG/L)	6.	J/

LANDFILL GAS

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GAS Type: GSVOC
Generated by: CAW
Date Issued: 10-MAY-91

Parameter	WK-GASFB01-01 11/07/90		WK-GASLW03-01 11/07/90		WK-GASLW04-01 11/07/90		WK-GASLW04-91 11/07/90	
Freon 12 (PPB(V/V))	2.	U/	4.	U/	10.	U/	10.	U/
Chloromethane (PPB(V/V))	2.5	U/	5.	U/	13.	U/	13.	U/
Freon 114 (PPB(V/V))	2.	U/	4.	U/	78.	/	48.	/
Vinyl chloride (PPB(V/V))	2.5	U/	5.	U/	13.	U/	13.	U/
Bromomethane (PPB(V/V))	3.	U/	6.	U/	15.	U/	15.	U/
Chloroethane (PPB(V/V))	5.	U/	10.	U/	470.	/	290.	/
Freon 11 (PPB(V/V))	1.	U/	2.	U/	10.	U/	10.	U/
cis-1,2-Dichloroethene (PPB(V/V))	2.	U/	4.	U/	20.	U/	20.	U/
Carbon disulfide (PPB(V/V))	10.	U/	20.	U/	50.	U/	50.	U/
Freon 113 (PPB(V/V))	2.	U/	4.	U/	10.	U/	10.	U/
Acetone (PPB(V/V))	10.	U/	20.	U/	50.	U/	50.	U/
Methylene chloride (PPB(V/V))	4.	U/	8.	U/	20.	U/	20.	U/
trans-1,2-Dichloroethene (PPB(V/V))	4.	U/	8.	U/	20.	U/	20.	U/
1,1-Dichloroethane (PPB(V/V))	2.5	U/	5.	U/	13.	U/	13.	U/
Vinyl acetate (PPB(V/V))	2.5	U/	5.	U/	13.	U/	13.	U/
1,1-Dichloroethene (PPB(V/V))	2.	U/	4.	U/	10.	U/	10.	U/
2-Butanone (PPB(V/V))	3.	U/	6.	U/	15.	U/	15.	U/
Chloroform (PPB(V/V))	2.	U/	4.	U/	10.	U/	10.	U/
1,1,1-Trichloroethane (PPB(V/V))	2.	U/	4.	U/	10.	U/	10.	U/
Carbon tetrachloride (PPB(V/V))	2.	U/	4.	U/	10.	U/	10.	U/
Benzene (PPB(V/V))	3.	U/	6.	U/	220.	/	120.	/
1,2-Dichloroethane (PPB(V/V))	2.	U/	4.	U/	10.	U/	10.	U/
Trichloroethene (PPB(V/V))	2.5	U/	5.	U/	13.	U/	13.	U/
1,2-Dichloropropane (PPB(V/V))	8.	U/	16.	U/	40.	U/	40.	U/
Bromodichloromethane (PPB(V/V))	2.	U/	4.	U/	10.	U/	10.	U/
cis-1,3-Dichloropropene (PPB(V/V))	3.	U/	6.	U/	15.	U/	15.	U/
4-Methyl-2-pentanone (PPB(V/V))	3.	U/	6.	U/	15.	U/	15.	U/
Toluene (PPB(V/V))	3.	U/	6.	U/	130.	/	65.	/
trans-1,3-Dichloropropene (PPB(V/V))	3.	U/	6.	U/	15.	U/	15.	U/
1,1,2-Trichloroethane (PPB(V/V))	3.	U/	6.	U/	15.	U/	15.	U/
Tetrachloroethane (PPB(V/V))	3.	U/	6.	U/	15.	U/	15.	U/
2-Hexanone (PPB(V/V))	5.	U/	10.	U/	25.	U/	25.	U/
Dibromochloromethane (PPB(V/V))	3.	U/	6.	U/	15.	U/	15.	U/
1,2-Dibromoethane (PPB(V/V))	2.	U/	4.	U/	10.	U/	10.	U/
Chlorobenzene (PPB(V/V))	2.5	U/	5.	U/	120.	/	72.	/
Ethylbenzene (PPB(V/V))	2.5	U/	20.	/	310.	/	190.	/
Xylenes (total) (PPB(V/V))	5.	U/	20.	/	440.	/	290.	/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.

ANALYTICAL DATA REPORT
Woodstock Landfill RI/FS
Woodstock, Illinois

Matrix: GAS Type: GSVOC

Parameter	WK-GASFB01-01 11/07/90		WK-GASLW03-01 11/07/90		WK-GASLW04-01 11/07/90		WK-GASLW04-91 11/07/90	
Styrene (PPB(V/V))	7.	U/	14.	U/	35.	U/	35.	U/
Bromoform (PPB(V/V))	2.	U/	4.	U/	10.	U/	10.	U/
1,1,2,2-Tetrachloroethane (PPB(V/V))	4.	U/	8.	U/	20.	U/	20.	U/
Benzyl chloride (PPB(V/V))	2.	U/	4.	U/	10.	U/	10.	U/
4-Ethyl toluene (PPB(V/V))	4.	U/	8.	U/	160.	/	100.	/
1,3,5-Trimethylbenzene (PPB(V/V))	2.5	U/	5.	U/	70.	/	52.	/
1,2,4-Trimethylbenzene (PPB(V/V))	3.	U/	25.	/	320.	/	200.	/
1,3-Dichlorobenzene (PPB(V/V))	3.	U/	6.	U/	15.	U/	15.	U/
1,4-Dichlorobenzene (PPB(V/V))	4.	U/	8.	U/	20.	U/	20.	U/
1,2-Dichlorobenzene (PPB(V/V))	5.	U/	10.	U/	25.	U/	25.	U/
1,2,4-Trichlorobenzene (PPB(V/V))	7.	U/	14.	U/	35.	U/	35.	U/
Hexachlorobutadiene (PPB(V/V))	5.	U/	10.	U/	25.	U/	25.	U/

Note: (1) Results are reported with qualifiers (Laboratory Qualifier/Data Validation Qualifier) to the right of the value.